

TEST REPORT

CERTIFICATE OF CONFORMITY

Standard: 47 CFR FCC Part 15, Subpart E (Section 15.407)

Report No.: RFBFBE-WTW-P22080834-1

FCC ID: YAW529027-BEK-Z

Model No.: PVS6

Received Date: 2022/8/24

Test Date: 2022/9/6 ~ 2022/9/19

Issued Date: 2022/10/4

Applicant: SunPower Corporation

Address: 1414 Harbour Way South Suite 1901, Richmond, CA 94804, USA

Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Hsin Chu Laboratory

Lab Address: E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan

Test Location: E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan

FCC Registration / 723255 / TW2022

Designation Number:

Approved by: _____



May Chen / Manager

, **Date:** _____

2022/10/4

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Prepared by : Vito Lung / Specialist



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Table of Contents

Release Control Record	4
1 Certificate.....	5
2 Summary of Test Results	6
2.1 Measurement Uncertainty	6
2.2 Supplementary Information	6
3 General Information	7
3.1 General Description of EUT	7
3.2 Antenna Description of EUT	8
3.3 Channel List.....	9
3.4 Power Setting	10
3.5 Test Mode Applicability and Tested Channel Detail.....	11
3.6 Duty Cycle of Test Signal.....	13
3.7 Test Program Used and Operation Descriptions	14
3.8 Connection Diagram of EUT and Peripheral Devices	14
3.9 Configuration of Peripheral Devices and Cable Connections	15
4 Test Instruments	16
4.1 RF Output Power.....	16
4.2 Power Spectral Density	16
4.3 6 dB Bandwidth	16
4.4 Occupied Bandwidth.....	16
4.5 Frequency Stability	17
4.6 AC Power Conducted Emissions	17
4.7 Unwanted Emissions below 1 GHz	18
4.8 Unwanted Emissions above 1 GHz.....	19
5 Limits of Test Items.....	20
5.1 RF Output Power.....	20
5.2 Power Spectral Density	20
5.3 6 dB Bandwidth	20
5.4 Occupied Bandwidth.....	20
5.5 Frequency Stability	20
5.6 AC Power Conducted Emissions	21
5.7 Unwanted Emissions below 1 GHz	21
5.8 Unwanted Emissions above 1 GHz.....	22
6 Test Arrangements.....	23
6.1 RF Output Power.....	23
6.1.1 Test Setup	23
6.1.2 Test Procedure	23
6.2 Power Spectral Density	23
6.2.1 Test Setup	23
6.2.2 Test Procedure	23
6.3 6 dB Bandwidth	24
6.3.1 Test Setup	24
6.3.2 Test Procedure	24
6.4 Occupied Bandwidth.....	24
6.4.1 Test Setup	24
6.4.2 Test Procedure	24
6.5 Frequency Stability	25
6.5.1 Test Setup	25
6.5.2 Test Procedure	25
6.6 AC Power Conducted Emissions	26
6.6.1 Test Setup	26
6.6.2 Test Procedure	26
6.7 Unwanted Emissions below 1 GHz	27
6.7.1 Test Setup	27

6.7.2	Test Procedure	28
6.8	Unwanted Emissions above 1 GHz	29
6.8.1	Test Setup	29
6.8.2	Test Procedure	29
7	Test Results of Test Item	30
7.1	RF Output Power	30
7.2	Power Spectral Density	35
7.3	6 dB Bandwidth	41
7.4	Occupied Bandwidth	43
7.5	Frequency Stability	51
7.6	AC Power Conducted Emissions	52
7.7	Unwanted Emissions below 1 GHz	54
7.8	Unwanted Emissions above 1 GHz	56
8	Pictures of Test Arrangements	99
9	Information of the Testing Laboratories	100

Release Control Record

Issue No.	Description	Date Issued
RFBFBE-WTW-P22080834-1	Original release.	2022/10/4

1 Certificate

Product: SunPower Monitoring System with PVS6

Brand: SUNPOWER

Test Model: PVS6

Sample Status: Engineering sample

Applicant: SunPower Corporation

Test Date: 2022/9/6 ~ 2022/9/19

Standard: 47 CFR FCC Part 15, Subpart E (Section 15.407)

Measurement ANSI C63.10-2013

procedure: KDB 789033 D02 General UNII Test Procedure New Rules v02r01

KDB 662911 D01 Multiple Transmitter Output v02r01

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
Clause	Test Item	Result	Remark
15.407(a)(1/2/3)	RF Output Power	Pass	Meet the requirement of limit.
15.407(a)(1/2/3)	Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6 dB Bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
---	Occupied Bandwidth	-	Reference only.
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.407(b)(9)	AC Power Conducted Emissions	Pass	Minimum passing margin is -6.02 dB at 4.68359 MHz
15.407(b)(9)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -0.4 dB at 392.20 MHz
15.407(b)(1/2/3/4(i)/10)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -0.3 dB at 5150.00 MHz
15.203	Antenna Requirement	Pass	Antenna connector is I-PEX not a standard connector.

Note: Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Specification	Expanded Uncertainty (k=2) (±)
AC Power Conducted Emissions	150 kHz ~ 30 MHz	1.9 dB
Unwanted Emissions below 1 GHz	9 kHz ~ 30 MHz	3.1 dB
	30 MHz ~ 1 GHz	5.4 dB
Unwanted Emissions above 1 GHz	1 GHz ~ 18 GHz	5.0 dB
	18 GHz ~ 40 GHz	5.3 dB

The other instruments specified are routine verified to remain within the calibrated levels, no measurement uncertainty is required to be calculated.

2.2 Supplementary Information

There is not any deviation from the test standards for the test method, and no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	SunPower Monitoring System with PVS6
Brand	SUNPOWER
Test Model	PVS6
Status of EUT	Engineering sample
Power Supply Rating	AC100-240V, 0.75A, 50/60Hz
Modulation Type	64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode
Modulation Technology	OFDM, OFDMA
Transfer Rate	802.11a: up to 54Mbps 802.11n: up to 300Mbps 802.11ac: up to 866.7Mbps 802.11ax: up to 1201.0Mbps
Operating Frequency	5.18 GHz ~ 5.24 GHz 5.745 GHz ~ 5.825 GHz
Number of Channel	802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 9 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 4 802.11ac (VHT80), 802.11ax (HE80): 2
Output Power	5.18 GHz ~ 5.24 GHz : 88.499 mW (19.47 dBm) (Master mode) 5.18 GHz ~ 5.24 GHz : 109.511 mW (20.39 dBm) (Client mode) 5.745 GHz ~ 5.825 GHz : 153.251 mW (21.85 dBm)
EUT Category	Outdoor Access Point Client device
Accessory Device	- Hole Plugs x2 - Bracket x1

Note:

1. This device can support different category application which switched by access point mode and client mode by software.
2. The EUT contains certified WWAN module which FCC ID: XMR2020BG95M1 (Brand: Quectel; Model: BG95-M1)
3. There are WLAN, Bluetooth and WWAN technology used for the EUT.
4. The EUT has two radios as following table:

Radio 1	Radio 2
WLAN (2.4GHz+5GHz)+ BT	WWAN (LTE)

5. Simultaneously transmission condition.

Condition	Technology		
1	WLAN(2.4GHz)	BT	WWAN
2	WLAN(5GHz)	BT	WWAN

Note: The emission of the simultaneous operation has been evaluated and no non-compliance was found.

6. The EUT needs to be supplied from an Internal power supply, the information is as below table:

Brand	Model No.	Spec.
WLAN WELL	IRM-30-12	AC Input: 100-240V, 0.75A, 50/60Hz DC Output: 12V, 2.5A

7. The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.
8. Customer confirmed that beamforming mode is not supported when operating in AP mode for WLAN.

3.2 Antenna Description of EUT

1. The antenna information is listed as below.

WLAN / Bluetooth								
Ant No.	Chain No.	Brand	Part Number	Model	Antenna Net Gain (dBi)	Frequency rang (GHz)	Antenna type	Connector type
1	Chain 0 (Including BT)	airgain	N2420DGLCORE3-T-PK1-W90SMA	65-031-212002B	2.2	2.4~2.4835	PCB	I-PEX
					3.8	5.15~5.25		
					4.2	5.725~5.85		
2	Chain 1 (WLAN use only)	airgain	N2420DGST2-T-PK1-A50U	65-031-212003B	4.2	2.4~2.4835	PCB	I-PEX
					4.1	5.15~5.25		
					4.8	5.725~5.85		

* Detail antenna specification please refer to antenna datasheet and/or antenna measurement report.

2. The EUT will install at outdoor area, for U-NII-1 the highest antenna gain is 1.49dBi from the horizon above 30 degrees, for more detail information please refer to antenna specification and user manual.

3. The EUT incorporates a MIMO function:

5 GHz Band		
Modulation Mode	TX & RX Configuration	
802.11a	2TX	2RX
802.11n (HT20)	2TX	2RX
802.11n (HT40)	2TX	2RX
802.11ac (VHT20)	2TX	2RX
802.11ac (VHT40)	2TX	2RX
802.11ac (VHT80)	2TX	2RX
802.11ax (HE20)	2TX	2RX
802.11ax (HE40)	2TX	2RX
802.11ax (HE80)	2TX	2RX

Note:

- The modulation and bandwidth are similar for 802.11n mode for 20 MHz (40 MHz), 802.11ac mode for 20 MHz (40 MHz, 80 MHz) and 802.11ax mode for 20 MHz (40 MHz, 80 MHz), therefore the manufacturer will control the power for 802.11n/ac mode is the same as the 802.11ax or more lower than it and investigated worst case to representative mode in test report.

3.3 Channel List

FOR 5180 ~ 5240 MHz

4 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20) and 802.11ax (HE20):

Channel	Frequency	Channel	Frequency
36	5180 MHz	44	5220 MHz
40	5200 MHz	48	5240 MHz

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40) and 802.11ax (HE40):

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

1 channels are provided for 802.11ac (VHT80) and 802.11ax (HE80):

Channel	Frequency
42	5210 MHz

FOR 5745 ~ 5825 MHz:

5 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20) and 802.11ax (HE20):

Channel	Frequency	Channel	Frequency
149	5745 MHz	161	5805 MHz
153	5765 MHz	165	5825 MHz
157	5785 MHz		

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40) and 802.11ax (HE40):

Channel	Frequency	Channel	Frequency
151	5755 MHz	159	5795 MHz

1 channel is provided for 802.11ac (VHT80) and 802.11ax (HE80):

Channel	Frequency
155	5775 MHz

3.4 Power Setting

For U-NII-1 Band (Client mode) & U-NII-3 Band							
802.11a		802.11ac (VHT20)		802.11ac (VHT40)		802.11ac (VHT80)	
Frequency (MHz)	Power Setting	Frequency (MHz)	Power Setting	Frequency (MHz)	Power Setting	Frequency (MHz)	Power Setting
5180	61	5180	60	5190	48	5210	50
5200	68	5200	69	5230	65	5775	58
5240	68	5240	68	5755	63		
5745	69	5745	70	5795	71		
5785	70	5785	71				
5825	72	5825	72				
802.11ax (HE20)			802.11ax (HE40)			802.11ax (HE80)	
Frequency (MHz)	Power Setting	Frequency (MHz)	Power Setting	Frequency (MHz)	Power Setting	Frequency (MHz)	Power Setting
5180	60	5190	48	5210	50		
5200	69	5230	65	5775	58		
5240	68	5755	63				
5745	70	5795	71				
5785	71						
5825	72						
For U-NII-1 Band (Master mode for Outdoor)							
802.11a		802.11ac (VHT20)		802.11ac (VHT40)		802.11ac (VHT80)	
Frequency (MHz)	Power Setting	Frequency (MHz)	Power Setting	Frequency (MHz)	Power Setting	Frequency (MHz)	Power Setting
5180	61	5180	60	5190	48	5210	50
5200	64	5200	65	5230	65		
5240	64	5240	65				
802.11ax (HE20)			802.11ax (HE40)			802.11ax (HE80)	
Frequency (MHz)	Power Setting	Frequency (MHz)	Power Setting	Frequency (MHz)	Power Setting	Frequency (MHz)	Power Setting
5180	60	5190	48	5210	50		
5200	65	5230	65				
5240	65						

3.5 Test Mode Applicability and Tested Channel Detail

Worst Case:	1. Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
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Note: Partial RU(resource unit) configurations not supported.

Following channel(s) was (were) selected for the final test as listed below:

Test Item	EUT Configure Mode	Mode	Tested Channel	Modulation	Data Rate Parameter
RF Output Power	A	11a 5G	36, 40, 48, 149, 157, 165	BPSK	6Mb/s
		802.11ac (VHT20)	36, 40, 48, 149, 157, 165	BPSK	MCS0
		802.11ac (VHT40)	38, 46, 54, 151, 159	BPSK	MCS0
		802.11ac (VHT80)	42, 155	BPSK	MCS0
		802.11ax (HE20)	36, 40, 48, 149, 157, 165	BPSK	MCS0
		802.11ax (HE40)	38, 46, 54, 151, 159	BPSK	MCS0
		802.11ax (HE80)	42, 155	BPSK	MCS0
	B	802.11a	36, 40, 48	BPSK	6Mb/s
		802.11ac (VHT20)	36, 40, 48	BPSK	MCS0
		802.11ac (VHT40)	38, 46	BPSK	MCS0
		802.11ac (VHT80)	42	BPSK	MCS0
		802.11ax (HE20)	36, 40, 48	BPSK	MCS0
		802.11ax (HE40)	38, 46	BPSK	MCS0
		802.11ax (HE80)	42	BPSK	MCS0
6 dB Bandwidth	A	802.11a	149, 157, 165	BPSK	6Mb/s
		802.11ax (HE20)	149, 157, 165	BPSK	MCS0
		802.11ax (HE40)	151, 159	BPSK	MCS0
		802.11ax (HE80)	155	BPSK	MCS0
Occupied Bandwidth / Power Spectral Density	A	802.11a	36, 40, 48, 149, 157, 165	BPSK	6Mb/s
		802.11ax (HE20)	36, 40, 48, 149, 157, 165	BPSK	MCS0
		802.11ax (HE40)	38, 46, 54, 151, 159	BPSK	MCS0
		802.11ax (HE80)	42, 155	BPSK	MCS0
	B	802.11a	36, 40, 48	BPSK	6Mb/s
		802.11ax (HE20)	36, 40, 48	BPSK	MCS0
		802.11ax (HE40)	38, 46	BPSK	MCS0
		802.11ax (HE80)	42	BPSK	MCS0
Frequency Stability	-	802.11a	36	un-modulation	-
AC Power Conducted Emissions	-	802.11ax (HE40)	159	BPSK	MCS0
Unwanted Emissions below 1 GHz	-	802.11ax (HE40)	159	BPSK	MCS0

Test Item	EUT Configure Mode	Mode	Tested Channel	Modulation	Data Rate Parameter
Unwanted Emissions above 1 GHz	-	802.11a	36, 40, 48, 149, 157, 165	BPSK	6Mb/s
		802.11ax (HE20)	36, 40, 48, 149, 157, 165	BPSK	MCS0
		802.11ax (HE40)	38, 46, 54, 151, 159	BPSK	MCS0
		802.11ax (HE80)	42, 155	BPSK	MCS0
EUT Configure Mode:	A	Client mode (Only U-NII 1,3)			
	B	Outdoor mode (Only U-NII 1)			

3.6 Duty Cycle of Test Signal

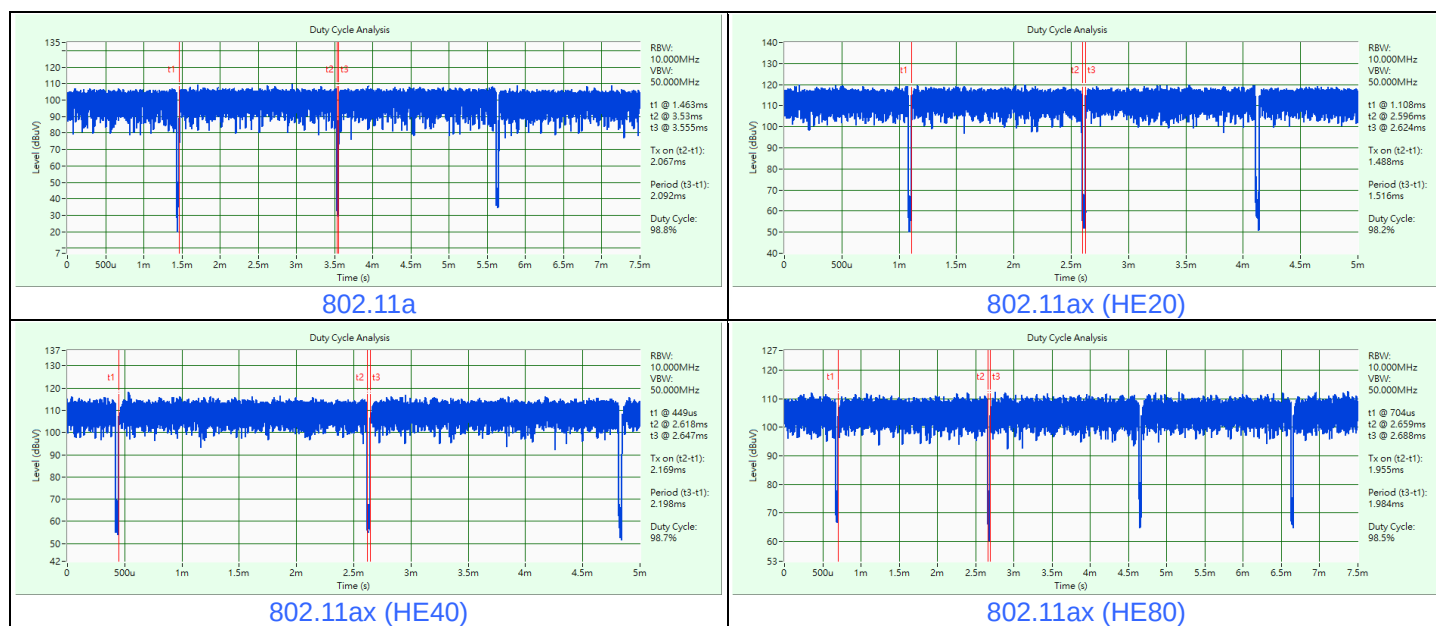
Duty cycle of test signal is $\geq 98\%$, duty factor is not required.
Duty cycle of test signal is $< 98\%$, duty factor shall be considered.

802.11a: Duty cycle = $2.067 \text{ ms} / 2.092 \text{ ms} \times 100\% = 98.8\%$

802.11ax (HE20): Duty cycle = $1.488 \text{ ms} / 1.516 \text{ ms} \times 100\% = 98.2\%$

802.11ax (HE40): Duty cycle = $2.169 \text{ ms} / 2.198 \text{ ms} \times 100\% = 98.7\%$

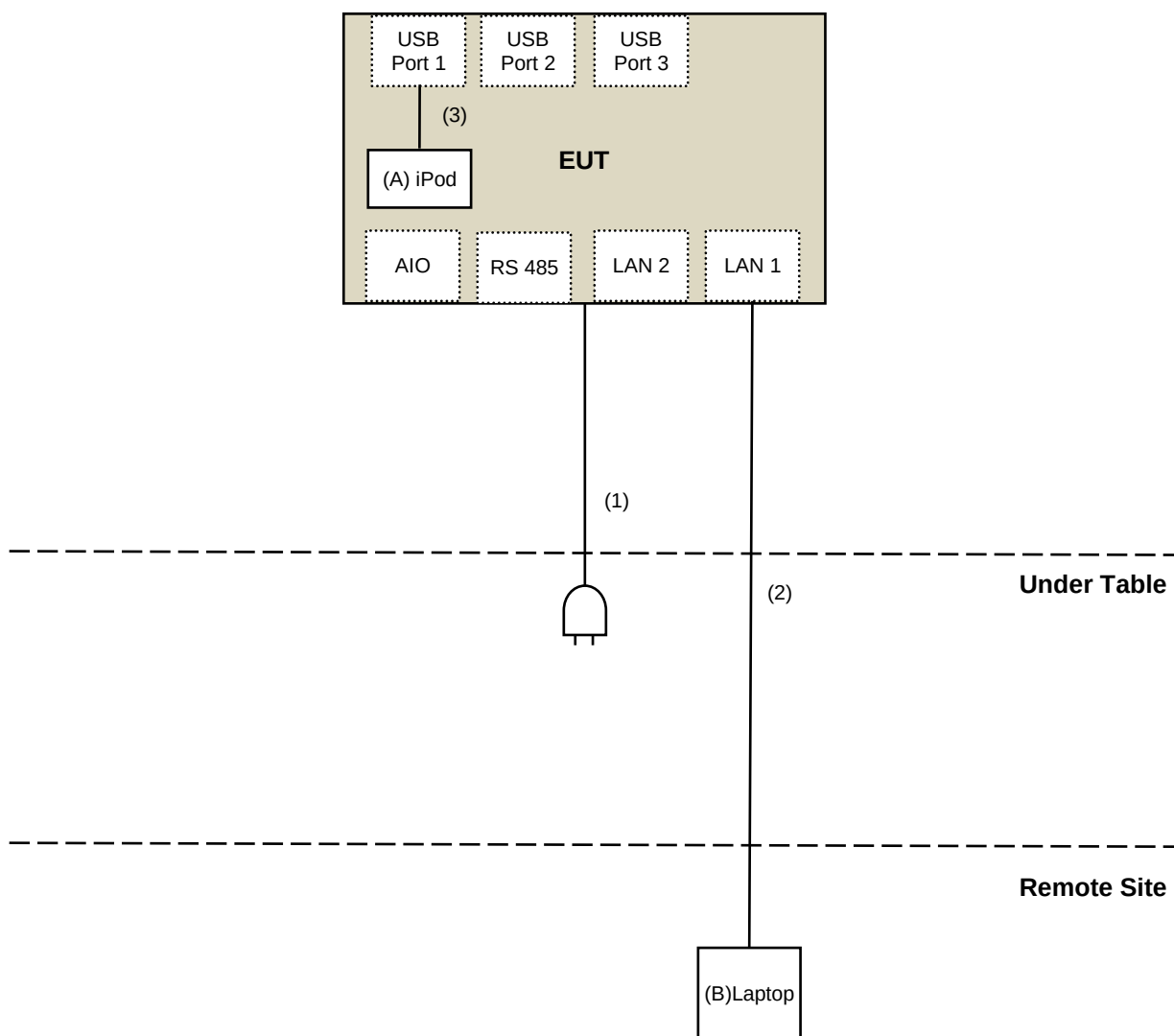
802.11ax (HE80): Duty cycle = $1.955 \text{ ms} / 1.984 \text{ ms} \times 100\% = 98.5\%$



3.7 Test Program Used and Operation Descriptions

Controlling software (Run Putty.exe paste PVS6_WiFi+BT+BLE SOP.docx command) has been activated to set the EUT under transmission condition continuously at specific channel frequency.

3.8 Connection Diagram of EUT and Peripheral Devices



NOTE: The test configuration was defined by the applicant requirement.

3.9 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	iPod	Apple	MC749TA/A	CC4DMFJUDEFDM	N/A	Provided by Lab
B	Laptop	Lenovo	20U5S01X00 L14	PF-28LKK7	N/A	Provided by Lab

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	AC Cable	1	1.8	No	0	Supplied by Applicant
2	RJ-45 Cable	1	10	No	0	Provided by Lab
3	USB Cable	1	0.1	Yes	0	Provided by Lab

4 Test Instruments

The calibration interval of the all test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.1 RF Output Power

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Power Meter Anritsu	ML2495A	1529002	2022/6/22	2023/6/21
Pulse Power Sensor Anritsu	MA2411B	1726434	2022/6/22	2023/6/21
Attenuator WOKEN	MDCS18N-10	MDCS18N-10-01	2022/4/5	2023/4/4
Software	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A

Notes:

1. The test was performed in Oven room 2.
2. Tested Date: 2022/9/15

4.2 Power Spectral Density

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Attenuator WOKEN	MDCS18N-10	MDCS18N-10-01	2022/4/5	2023/4/4
Software	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A
Spectrum Analyzer R&S	FSV40	101516	2022/3/7	2023/3/6

Notes:

1. The test was performed in Oven room 2.
2. Tested Date: 2022/9/15

4.3 6 dB Bandwidth

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Attenuator WOKEN	MDCS18N-10	MDCS18N-10-01	2022/4/5	2023/4/4
Software	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A
Spectrum Analyzer R&S	FSV40	101516	2022/3/7	2023/3/6

Notes:

1. The test was performed in Oven room 2.
2. Tested Date: 2022/9/15

4.4 Occupied Bandwidth

Refer to section 4.2 to get information of the instruments.

4.5 Frequency Stability

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
AC Power Source GOOD WILL	6905S	1991551	N/A	N/A
Attenuator WOKEN	MDCS18N-10	MDCS18N-10-01	2022/4/5	2023/4/4
Software	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A
Spectrum Analyzer R&S	FSV40	101516	2022/3/7	2023/3/6
Temperature & Humidity Chamber Giant Force	GTH-150-40-SP-AR	MAA0812-008	2022/1/14	2023/1/13
True RMS Clamp Meter Fluke	325	31130711WS	2022/6/9	2023/6/8

Notes:

1. The test was performed in Oven room 2.
2. Tested Date: 2022/9/15

4.6 AC Power Conducted Emissions

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
50 ohms Terminator	50	3	2021/10/27	2022/10/26
Fixed attenuator STI	STI02-2200-10	005	2022/8/24	2023/8/23
LISN R&S	ESH3-Z5	848773/004	2021/10/29	2022/10/28
RF Coaxial Cable JYEBO	5D-FB	COCCAB-001	2022/8/24	2023/8/23
Software BVADT	BVADT_Cond_V7.3.7.4	N/A	N/A	N/A
TEST RECEIVER R&S	ESCS 30	847124/029	2021/10/13	2022/10/12

Notes:

1. The test was performed in Conduction 1
2. Tested Date: 2022/9/19

4.7 Unwanted Emissions below 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208406	N/A	N/A
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-3m-3-01	2022/9/14	2023/9/13
LOOP ANTENNA Electro-Metrics	EM-6879	264	2022/3/18	2023/3/17
Pre_Amplifier Agilent	8447D	2944A10636	2022/3/19	2023/3/18
Pre_Amplifier Mini-Circuits	ZFL-1000VH2	QA0838008	2021/10/19	2022/10/18
RF Coaxial Cable COMMATE/PEWC	8D	966-3-2	2022/2/26	2023/2/25
		966-3-3	2022/2/26	2023/2/25
		966-4-1	2022/3/8	2023/3/7
RF Coaxial Cable JYEBO	5D-FB	LOOPCAB-001	2022/1/6	2023/1/5
		LOOPCAB-002	2022/1/6	2023/1/5
Software	ADT_Radiated_V8.7.08	N/A	N/A	N/A
Spectrum Analyzer KEYSIGHT	N9030B	MY57142938	2022/4/26	2023/4/25
Test Receiver KEYSIGHT	N9038A	MY59050100	2022/6/20	2023/6/19
Trilog Broadband Antenna Schwarzbeck	VULB 9168	9168-361	2021/10/26	2022/10/25

Notes:

1. The test was performed in 966 Chamber No. 3.
2. Tested Date: 2022/9/16

4.8 Unwanted Emissions above 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208406	N/A	N/A
Fix tool for Boresight antenna tower BV	FBA-01	FBA_SIP01	N/A	N/A
Horn Antenna Schwarzbeck	BBHA 9170	9170-739	2021/11/14	2022/11/13
	BBHA9120-D	9120D-406	2021/11/14	2022/11/13
Pre_Amplifier EMCI	EMC12630SE	980384	2022/1/10	2023/1/9
	EMC184045SE	980387	2022/1/10	2023/1/9
RF Cable EMCI	EMC104-SM-SM-6000	210201	2022/5/10	2023/5/9
RF Cable-Frequency range: 1- 40GHz EMCI	EMC102-KM-KM-1200	160924	2022/1/10	2023/1/9
RF Coaxial Cable EMCI	EMC-KM-KM-4000	200214	2022/3/8	2023/3/7
	EMC104-SM-SM-1500	180504	2022/4/25	2023/4/24
	EMC104-SM-SM-2000	180601	2022/6/6	2023/6/5
Software	ADT_Radiated_V8.7.08	N/A	N/A	N/A
Spectrum Analyzer KEYSIGHT	N9030B	MY57142938	2022/4/26	2023/4/25
Test Receiver KEYSIGHT	N9038A	MY59050100	2022/6/20	2023/6/19

Notes:

1. The test was performed in 966 Chamber No. 3.
2. Tested Date: 2022/9/6 ~ 2022/9/19

5 Limits of Test Items

5.1 RF Output Power

Operation Band	EUT Category	Limit
U-NII-1	Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p $\leq$ 125mW(21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
	Fixed point-to-point Access Point	1 Watt (30 dBm)
	Indoor Access Point	1 Watt (30 dBm)
	Mobile and Portable client device	250 mW (24 dBm)

Operation Band	Limit
U-NII-3	1 Watt (30 dBm)

Per KDB 662911 D01 Multiple Transmitter Output Method of conducted output power measurement on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT} ;

Array Gain = $5 \log(N_{ANT}/N_{SS})$ dB or 3 dB, whichever is less, for 20-MHz channel widths with $N_{ANT} \geq 5$.

For power measurements on all other devices: Array Gain = $10 \log(N_{ANT}/N_{SS})$ dB.

5.2 Power Spectral Density

Operation Band	EUT Category	Limit
U-NII-1	Outdoor Access Point	17 dBm/ MHz
	Fixed point-to-point Access Point	
	Indoor Access Point	
	Mobile and Portable client device	11 dBm/ MHz

Operation Band	Limit
U-NII-3	30 dBm/ 500 kHz

5.3 6 dB Bandwidth

Within the 5.725-5.850 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

5.4 Occupied Bandwidth

The results are for reference only.

5.5 Frequency Stability

The frequency of the carrier signal shall be maintained within band of operation.

5.6 AC Power Conducted Emissions

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

Notes:

1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.

5.7 Unwanted Emissions below 1 GHz

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table.

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

Notes:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).

5.8 Unwanted Emissions above 1 GHz

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table.

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
Above 960	500	3

Notes:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any condition of modulation.

Limits of unwanted emission out of the restricted bands

Applicable To		Limit	
789033 D02 General UNII Test Procedure New Rules v02r01		Field Strength at 3 m	
		PK: 74 (dBμV/m)	AV: 54 (dBμV/m)
Frequency Band	Applicable To	EIRP Limit	Equivalent Field Strength at 3 m
5150~5250 MHz	15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2 (dBμV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	15.407(b)(4)(i)	PK: -27 (dBm/MHz) ^{*1} PK: 10 (dBm/MHz) ^{*2} PK: 15.6 (dBm/MHz) ^{*3} PK: 27 (dBm/MHz) ^{*4}	PK: 68.2 (dBμV/m) ^{*1} PK: 105.2 (dBμV/m) ^{*2} PK: 110.8 (dBμV/m) ^{*3} PK: 122.2 (dBμV/m) ^{*4}
^{*1} beyond 75 MHz or more above of the band edge. ^{*3} below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.		^{*2} below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above. ^{*4} from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.	

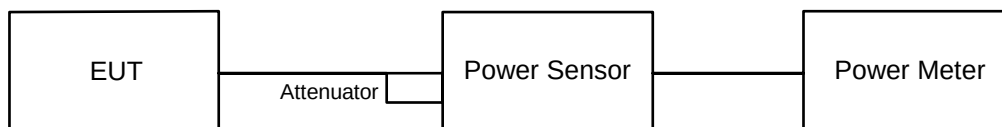
Note: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = \frac{1000000\sqrt{30P}}{3} \mu\text{V/m, where P is the eirp (Watts).}$$

6 Test Arrangements

6.1 RF Output Power

6.1.1 Test Setup

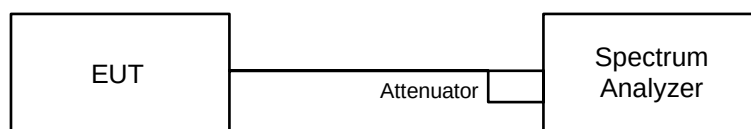


6.1.2 Test Procedure

Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst and set the detector to average. Duty factor is not added to measured value.

6.2 Power Spectral Density

6.2.1 Test Setup



6.2.2 Test Procedure

For specified measurement bandwidth 1 MHz:

Method SA-1

- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 1 MHz, Set VBW $\geq$ 3 MHz, Detector = RMS
- Sweep points $\geq [2 \times \text{span} / \text{RBW}]$. (This gives bin-to-bin spacing $\leq \text{RBW} / 2$, so that narrowband signals are not lost between frequency bins.)
- Sweep time = auto, trigger set to "free run".
- Trace average at least 100 traces in power averaging mode.
- Record the max value

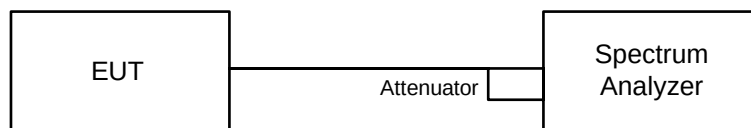
For specified measurement bandwidth 500 kHz:

Method SA-1

- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 300 kHz, Set VBW $\geq$ 1 MHz, Detector = RMS
- Scale the observed power level to an equivalent value in 500 kHz by adjusting (increasing) the measured power by a bandwidth correction factor (BWCF) where $\text{BWCF} = 10\log(500 \text{ kHz}/300 \text{ kHz})$
- Sweep points $\geq [2 \times \text{span} / \text{RBW}]$. (This gives bin-to-bin spacing $\leq \text{RBW} / 2$, so that narrowband signals are not lost between frequency bins.)
- Sweep time = auto, trigger set to "free run".
- Trace average at least 100 traces in power averaging mode.
- Record the max value

6.3 6 dB Bandwidth

6.3.1 Test Setup

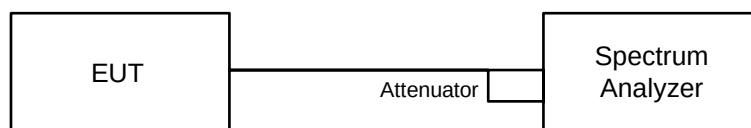


6.3.2 Test Procedure

- Set resolution bandwidth (RBW) = 100 kHz.
- Set the video bandwidth (VBW) $\geq 3 \times$ RBW, Detector = Peak.
- Trace mode = max hold.
- Sweep = auto couple.
- Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

6.4 Occupied Bandwidth

6.4.1 Test Setup

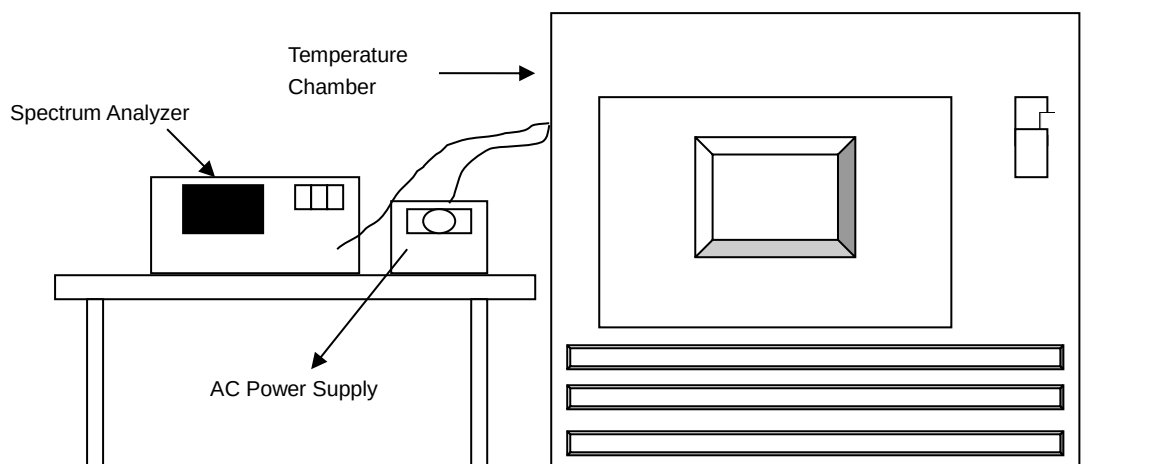


6.4.2 Test Procedure

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with resolution bandwidth in the range of 1% to 5% of the anticipated emission bandwidth, and a video bandwidth at least 3x the resolution bandwidth and set the detector to Sampling. The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean power of a given emission.

6.5 Frequency Stability

6.5.1 Test Setup

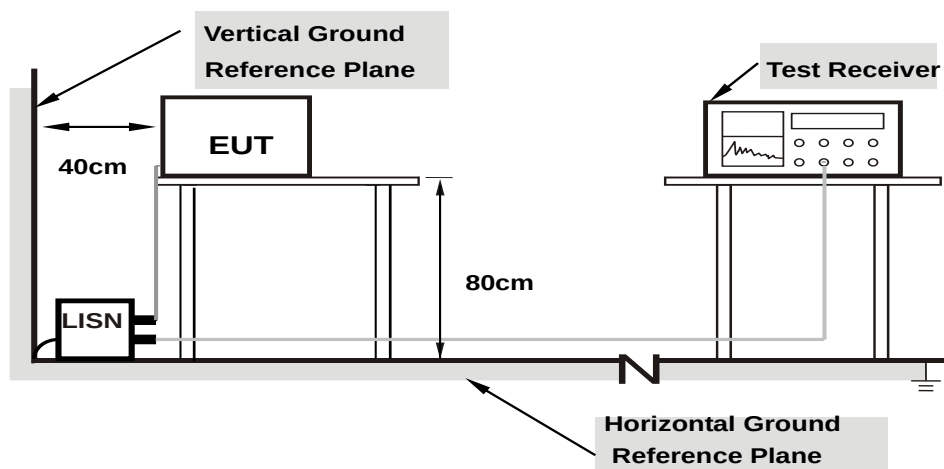


6.5.2 Test Procedure

- The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.
- Turn the EUT on and couple its output to a spectrum analyzer.
- Turn the EUT off and set the chamber to the highest temperature specified.
- Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 Minutes.
- Repeat step (d) with the temperature chamber set to the next desired temperature until measurements down to the lowest specified temperature have been completed.
- The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 Minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

6.6 AC Power Conducted Emissions

6.6.1 Test Setup



Note: 1. Support units were connected to second LISN.

For the actual test configuration, please refer to the attached file (Test Setup Photo).

6.6.2 Test Procedure

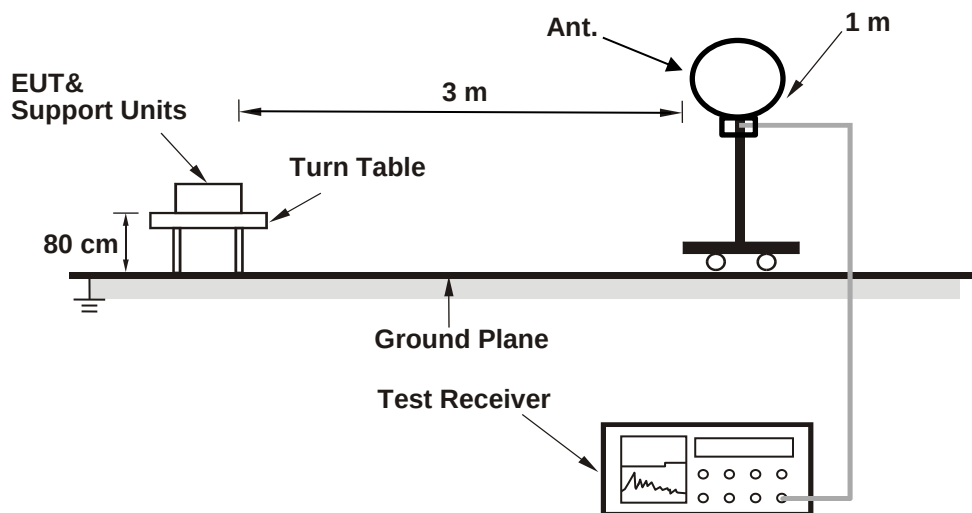
- The EUT was placed on a 0.8 meter to the top of table and placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50 uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit – 20 dB) was not recorded.

Note: The resolution bandwidth and video bandwidth of test receiver is 9 kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15 MHz-30 MHz.

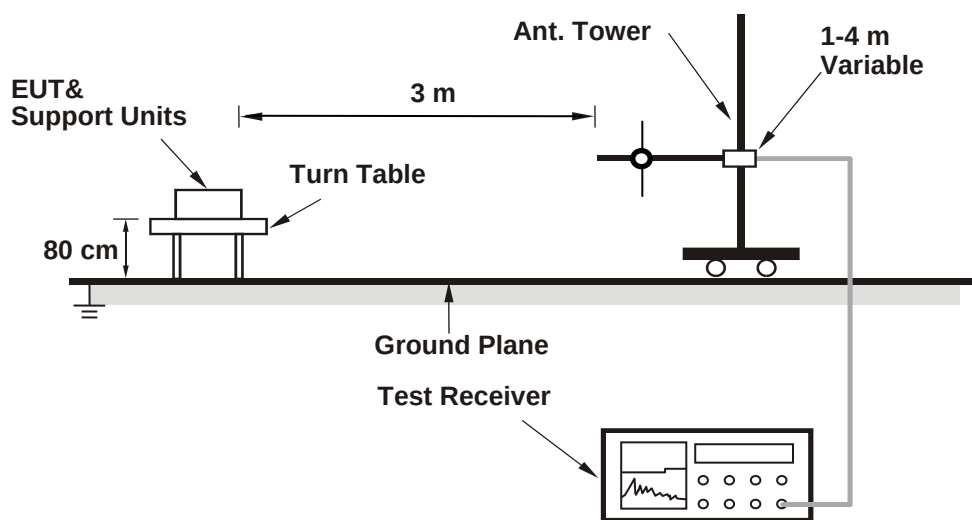
6.7 Unwanted Emissions below 1 GHz

6.7.1 Test Setup

For Radiated emission below 30 MHz



For Radiated emission above 30 MHz



For the actual test configuration, please refer to the attached file (Test Setup Photo).

6.7.2 Test Procedure

For Radiated emission below 30 MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode, except for the frequency band (9 kHz to 90 kHz and 110 kHz to 490 kHz) set to average detect function and peak detect function.

Notes:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 200 Hz at frequency below 150 kHz.
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9 kHz or 10 kHz at frequency (150 kHz to 30 MHz).
3. All modes of operation were investigated and the worst-case emissions are reported.

For Radiated emission above 30 MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

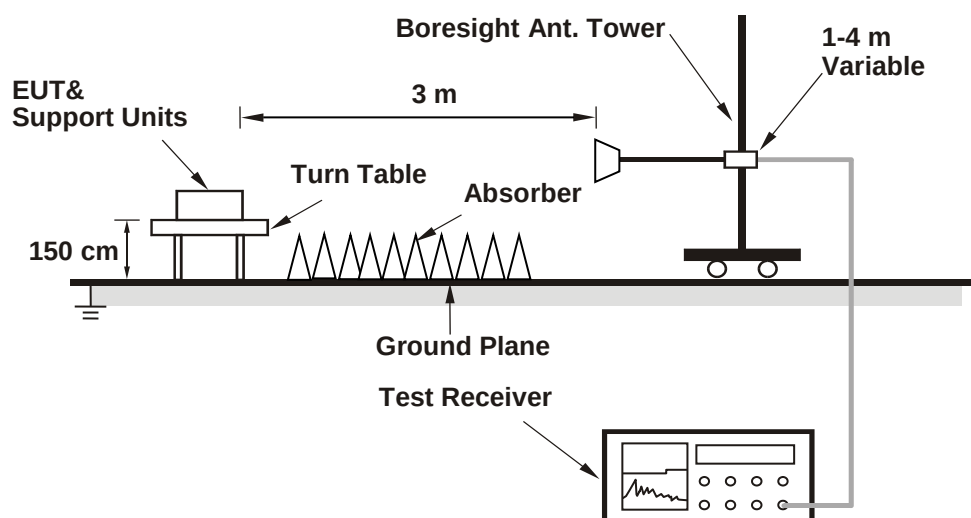
Notes:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
2. All modes of operation were investigated and the worst-case emissions are reported.

6.8 Unwanted Emissions above 1 GHz

6.8.1 Test Setup

For Radiated emission above 1 GHz



For the actual test configuration, please refer to the attached file (Test Setup Photo).

6.8.2 Test Procedure

- The EUT was placed on the top of a rotating table 1.5 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to peak and average detects function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Notes:

- The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) and Average detection (AV) at frequency above 1 GHz.
- For fundamental and harmonic signal measurement, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is $\geq 1/T$ (Duty cycle $< 98\%$) or 10 Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1 GHz.
- All modes of operation were investigated and the worst-case emissions are reported.

7 Test Results of Test Item

7.1 RF Output Power

Mode A

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Eric Peng
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802.11a

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
36	5180	14.94	15.59	67.413	18.29	24	Pass
40	5200	16.88	17.76	108.456	20.35	24	Pass
48	5240	16.63	17.67	104.505	20.19	24	Pass
149	5745	18.46	17.49	126.25	21.01	30	Pass
157	5785	18.72	17.32	128.424	21.09	30	Pass
165	5825	18.61	17.47	128.458	21.09	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-1, the maximum gain is 4.1 dBi < 6 dBi, so the output power limit shall not be reduced.
3. For U-NII-3, the maximum gain is 4.8 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
36	5180	14.55	14.98	59.988	17.78	24	Pass
40	5200	16.61	17.62	103.624	20.15	24	Pass
48	5240	16.37	17.46	99.07	19.96	24	Pass
149	5745	18.27	17.48	123.119	20.90	30	Pass
157	5785	18.53	17.66	129.63	21.13	30	Pass
165	5825	18.70	17.52	130.625	21.16	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-1, the maximum gain is 4.1 dBi < 6 dBi, so the output power limit shall not be reduced.
3. For U-NII-3, the maximum gain is 4.8 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
38	5190	11.39	11.91	29.296	14.67	24	Pass
46	5230	16.01	16.38	83.354	19.21	24	Pass
151	5755	16.56	16.17	86.69	19.38	30	Pass
159	5795	18.74	18.41	144.16	21.59	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-1, the maximum gain is 4.1 dBi < 6 dBi, so the output power limit shall not be reduced.
3. For U-NII-3, the maximum gain is 4.8 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
42	5210	11.77	12.52	32.896	15.17	24	Pass
155	5775	13.07	14.33	47.379	16.76	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-1, the maximum gain is 4.1 dBi < 6 dBi, so the output power limit shall not be reduced.
3. For U-NII-3, the maximum gain is 4.8 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
36	5180	14.81	15.24	63.689	18.04	24	Pass
40	5200	16.85	17.86	109.511	20.39	24	Pass
48	5240	16.63	17.72	105.182	20.22	24	Pass
149	5745	18.53	17.73	130.578	21.16	30	Pass
157	5785	18.77	17.92	137.28	21.38	30	Pass
165	5825	18.96	17.78	138.684	21.42	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-1, the maximum gain is 4.1 dBi < 6 dBi, so the output power limit shall not be reduced.
3. For U-NII-3, the maximum gain is 4.8 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
38	5190	11.65	12.14	30.99	14.91	24	Pass
46	5230	16.24	16.63	88.098	19.45	24	Pass
151	5755	16.82	16.43	92.038	19.64	30	Pass
159	5795	19.02	18.66	153.251	21.85	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-1, the maximum gain is 4.1 dBi < 6 dBi, so the output power limit shall not be reduced.
3. For U-NII-3, the maximum gain is 4.8 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1				
42	5210	12.03	12.78	34.926	15.43	24	Pass
155	5775	13.34	14.61	50.484	17.03	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-1, the maximum gain is 4.1 dBi < 6 dBi, so the output power limit shall not be reduced.
3. For U-NII-3, the maximum gain is 4.8 dBi < 6 dBi, so the output power limit shall not be reduced.

Mode B

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Eric Peng
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802.11a

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	*Maximum Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Test Result
		Chain 0	Chain 1								
36	5180	14.94	15.59	67.413	18.29	30	1.49	95.06	19.78	21	Pass
40	5200	15.88	16.76	86.15	19.35	30	1.49	121.339	20.84	21	Pass
48	5240	15.73	16.77	84.945	19.29	30	1.49	119.674	20.78	21	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-1, the maximum gain is 4.1 dBi < 6 dBi, so the output power limit shall not be reduced.
3. *For U-NII-1, the gain of above 30 degrees from the horizon is 1.49 dBi, EIRP (dBm) = Average Power (dBm) + 1.49 dBi

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	*Maximum Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Test Result
		Chain 0	Chain 1								
36	5180	14.55	14.98	59.988	17.78	30	1.49	84.528	19.27	21	Pass
40	5200	15.59	16.62	82.144	19.15	30	1.49	115.878	20.64	21	Pass
48	5240	15.64	16.73	83.741	19.23	30	1.49	118.032	20.72	21	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-1, the maximum gain is 4.1 dBi < 6 dBi, so the output power limit shall not be reduced.
3. *For U-NII-1, the gain of above 30 degrees from the horizon is 1.49 dBi, EIRP (dBm) = Average Power (dBm) + 1.49 dBi

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	*Maximum Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Test Result
		Chain 0	Chain 1								
38	5190	11.39	11.91	29.296	14.67	30	1.49	41.305	16.16	21	Pass
46	5230	16.01	16.38	83.354	19.21	30	1.49	117.49	20.7	21	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-1, the maximum gain is 4.1 dBi < 6 dBi, so the output power limit shall not be reduced.
3. *For U-NII-1, the gain of above 30 degrees from the horizon is 1.49 dBi, EIRP (dBm) = Average Power (dBm) + 1.49 dBi

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	*Maximum Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Test Result
		Chain 0	Chain 1								
42	5210	11.77	12.52	32.896	15.17	30	1.49	46.345	16.66	21	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-1, the maximum gain is 4.1 dBi < 6 dBi, so the output power limit shall not be reduced.
3. *For U-NII-1, the gain of above 30 degrees from the horizon is 1.49 dBi, EIRP (dBm) = Average Power (dBm) + 1.49 dBi

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	*Maximum Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Test Result
		Chain 0	Chain 1								
36	5180	14.81	15.24	63.689	18.04	30	1.49	89.743	19.53	21	Pass
40	5200	15.85	16.86	86.988	19.39	30	1.49	122.462	20.88	21	Pass
48	5240	15.88	16.97	88.499	19.47	30	1.49	124.738	20.96	21	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-1, the maximum gain is 4.1 dBi < 6 dBi, so the output power limit shall not be reduced.
3. *For U-NII-1, the gain of above 30 degrees from the horizon is 1.49 dBi, EIRP (dBm) = Average Power (dBm) + 1.49 dBi

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	*Maximum Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Test Result
		Chain 0	Chain 1								
38	5190	11.65	12.14	30.99	14.91	30	1.49	43.652	16.4	21	Pass
46	5230	16.24	16.63	88.098	19.45	30	1.49	124.165	20.94	21	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-1, the maximum gain is 4.1 dBi < 6 dBi, so the output power limit shall not be reduced.
3. *For U-NII-1, the gain of above 30 degrees from the horizon is 1.49 dBi, EIRP (dBm) = Average Power (dBm) + 1.49 dBi

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	*Maximum Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Test Result
		Chain 0	Chain 1								
42	5210	12.03	12.78	34.926	15.43	30	1.49	49.204	16.92	21	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-1, the maximum gain is 4.1 dBi < 6 dBi, so the output power limit shall not be reduced.
3. *For U-NII-1, the gain of above 30 degrees from the horizon is 1.49 dBi, EIRP (dBm) = Average Power (dBm) + 1.49 dBi

7.2 Power Spectral Density

Mode A

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Eric Peng
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802.11a

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)		Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1			
36	5180	3.51	2.16	5.90	10.04	Pass
40	5200	3.47	4.36	6.95	10.04	Pass
48	5240	3.32	4.63	7.03	10.04	Pass

Notes:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
3. For U-NII-1, the directional gain is 6.96 dBi > 6dBi, so the power density limit shall be reduced to $11 - (6.96 - 6) = 10.04$ dBm/MHz.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)		Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1			
36	5180	2.67	1.82	5.28	10.04	Pass
40	5200	5.03	4.44	7.76	10.04	Pass
48	5240	4.85	4.14	7.52	10.04	Pass

Notes:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
3. For U-NII-1, the directional gain is 6.96 dBi > 6dBi, so the power density limit shall be reduced to $11 - (6.96 - 6) = 10.04$ dBm/MHz.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)		Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1			
38	5190	-4.75	-5.46	-2.08	10.04	Pass
46	5230	-0.24	-0.91	2.45	10.04	Pass

Notes:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
3. For U-NII-1, the directional gain is 6.96 dBi > 6dBi, so the power density limit shall be reduced to $11 - (6.96 - 6) = 10.04$ dBm/MHz.

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)		Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1			
42	5210	-7.35	-7.82	-4.57	10.04	Pass

Notes:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
3. For U-NII-1, the directional gain is 6.96 dBi > 6dBi, so the power density limit shall be reduced to $11 - (6.96 - 6) = 10.04$ dBm/MHz.

802.11a

Chan.	Chan. Freq. (MHz)	PSD (dBm/300kHz)		Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
		Chain 0	Chain 1				
149	5745	-0.15	-0.06	2.91	5.13	28.48	Pass
157	5785	-0.85	0.02	2.62	4.84	28.48	Pass
165	5825	1.18	0.31	3.78	6.00	28.48	Pass

Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
3. For U-NII-3, the directional gain is 7.52 dBi > 6 dBi, so the power density limit shall be reduced to $30 - (7.52 - 6) = 28.48$ dBm/500kHz.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD (dBm/300kHz)		Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
		Chain 0	Chain 1				
149	5745	0.55	-0.21	3.2	5.42	28.48	Pass
157	5785	0.13	-0.39	2.89	5.11	28.48	Pass
165	5825	0.54	-0.14	3.22	5.44	28.48	Pass

Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
3. For U-NII-3, the directional gain is 7.52 dBi > 6 dBi, so the power density limit shall be reduced to $30 - (7.52 - 6) = 28.48$ dBm/500kHz.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD (dBm/300kHz)		Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
		Chain 0	Chain 1				
151	5755	-6.15	-6.79	-3.45	-1.23	28.48	Pass
159	5795	-4.36	-5.76	-1.99	0.23	28.48	Pass

Notes:

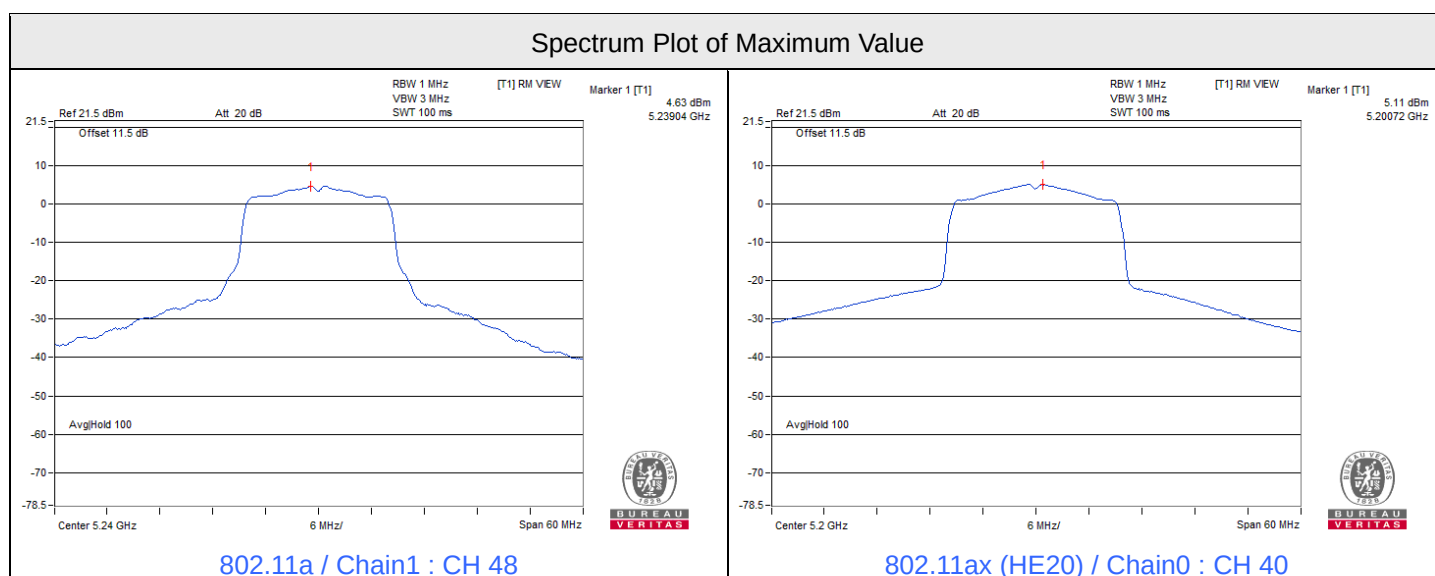
1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
3. For U-NII-3, the directional gain is 7.52 dBi > 6 dBi, so the power density limit shall be reduced to $30 - (7.52 - 6) = 28.48$ dBm/500kHz.

802.11ax (HE80)

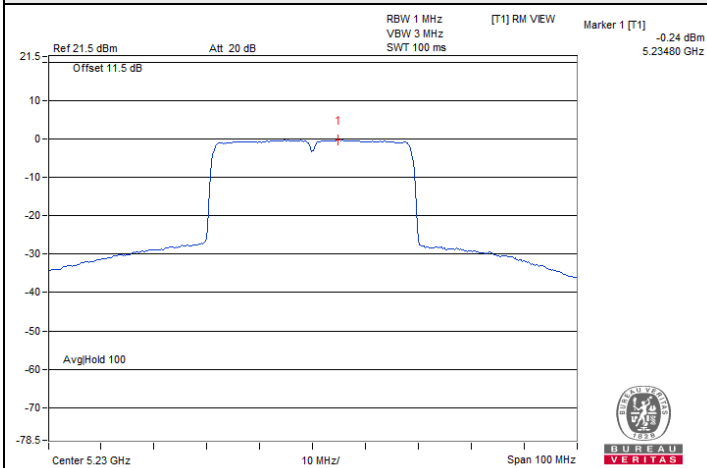
Chan.	Chan. Freq. (MHz)	PSD (dBm/300kHz)		Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
		Chain 0	Chain 1				
155	5775	-10.72	-10.35	-7.52	-5.30	28.48	Pass

Notes:

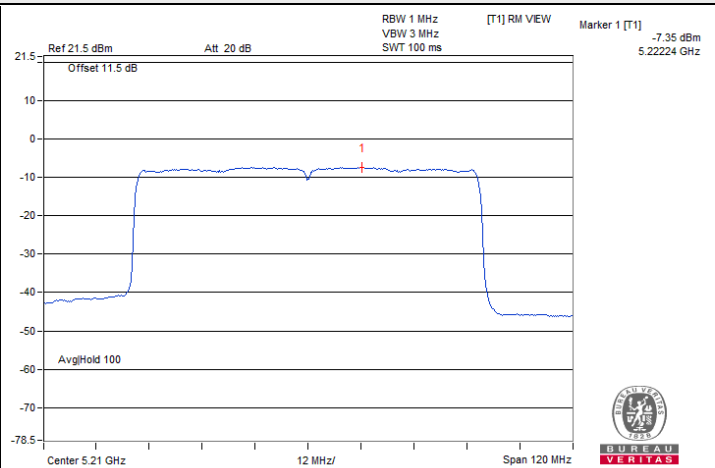
1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
3. For U-NII-3, the directional gain is 7.52 dBi > 6 dBi, so the power density limit shall be reduced to $30 - (7.52 - 6) = 28.48$ dBm/500kHz.



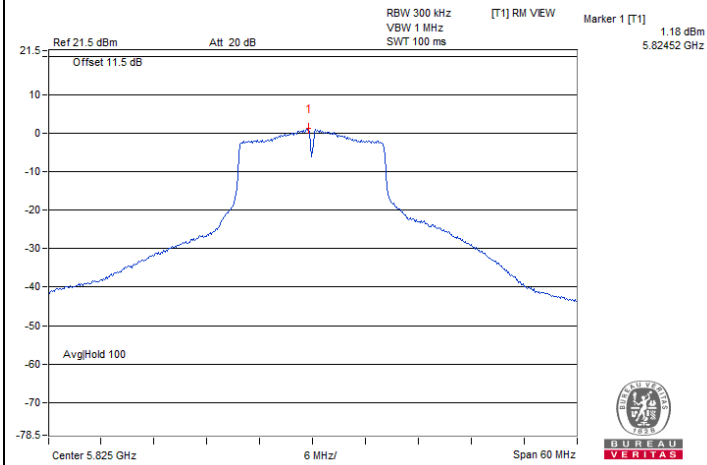
Spectrum Plot of Maximum Value



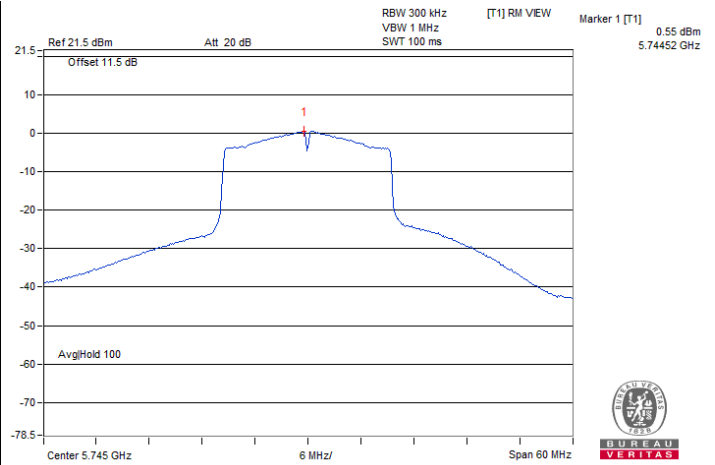
802.11ax (HE40) / Chain0 : CH 46



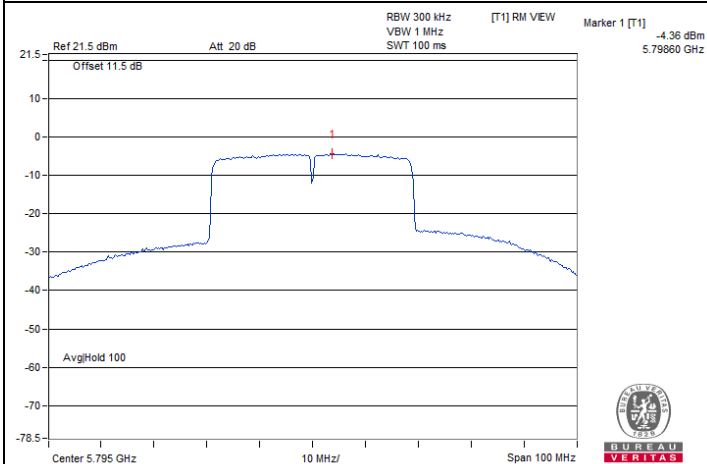
802.11ax (HE80) / Chain0 : CH 42



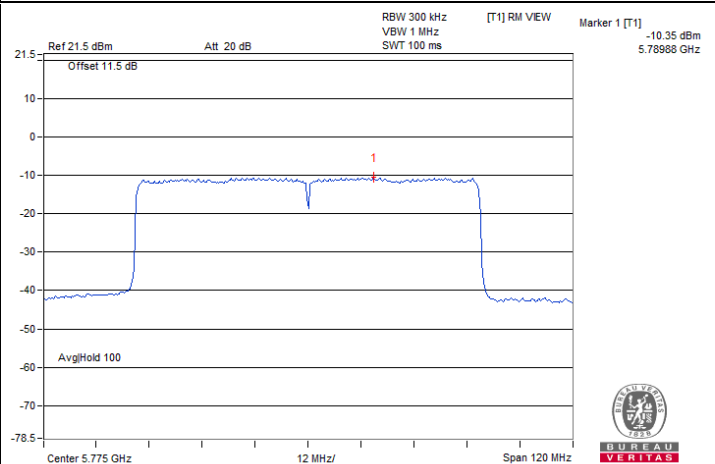
802.11a / Chain0 : CH 165



802.11ax (HE20) / Chain0 : CH 149



802.11ax (HE40) / Chain0 : CH 159



802.11ax (HE80) / Chain1 : CH 155

Mode B

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Eric Peng
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802.11a

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)		Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1			
36	5180	3.51	2.16	5.90	16.04	Pass
40	5200	3.86	3.26	6.58	16.04	Pass
48	5240	4.19	3.43	6.84	16.04	Pass

Notes:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
3. For U-NII-1, the directional gain is 6.96 dBi > 6dBi, so the power density limit shall be reduced to $17 - (6.96 - 6) = 16.04$ dBm/MHz.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)		Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1			
36	5180	2.67	1.82	5.28	16.04	Pass
40	5200	3.97	3.21	6.62	16.04	Pass
48	5240	4.11	3.29	6.73	16.04	Pass

Notes:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
3. For U-NII-1, the directional gain is 6.96 dBi > 6dBi, so the power density limit shall be reduced to $17 - (6.96 - 6) = 16.04$ dBm/MHz.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)		Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1			
38	5190	-4.75	-5.46	-2.08	16.04	Pass
46	5230	-0.24	-0.91	2.45	16.04	Pass

Notes:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
3. For U-NII-1, the directional gain is 6.96 dBi > 6dBi, so the power density limit shall be reduced to $17 - (6.96 - 6) = 16.04$ dBm/MHz.

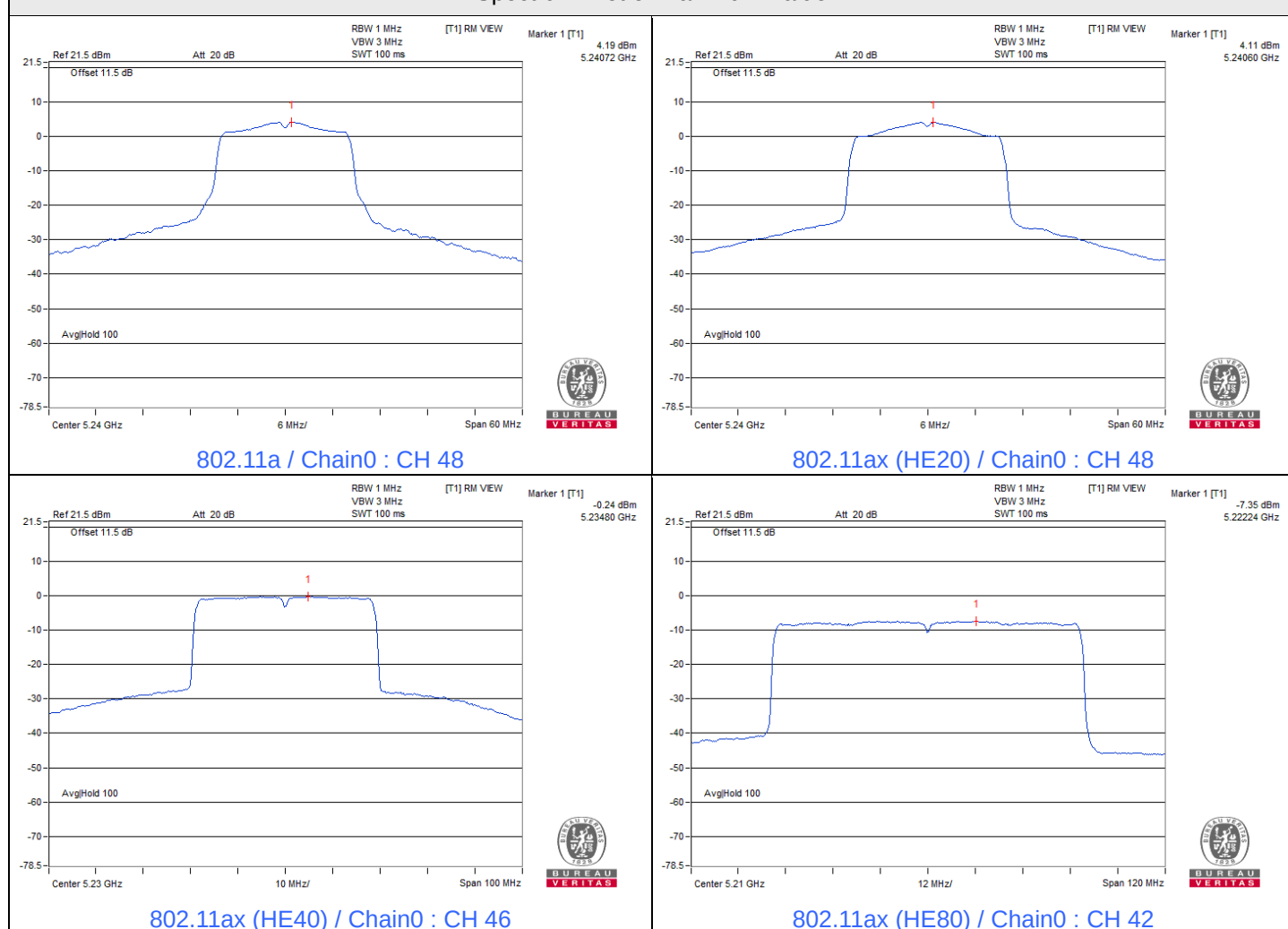
802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)		Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1			
42	5210	-7.35	-7.82	-4.57	16.04	Pass

Notes:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
3. For U-NII-1, the directional gain is 6.96 dBi > 6dBi, so the power density limit shall be reduced to $17 - (6.96 - 6) = 16.04$ dBm/MHz.

Spectrum Plot of Maximum Value



7.3 6 dB Bandwidth

Mode A

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Eric Peng
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802.11a

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
149	5745	15.92	16.32	0.5	Pass
157	5785	16.33	16.31	0.5	Pass
165	5825	16.29	16.31	0.5	Pass

802.11ax (HE20)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
149	5745	18.00	18.39	0.5	Pass
157	5785	18.25	17.58	0.5	Pass
165	5825	17.78	18.58	0.5	Pass

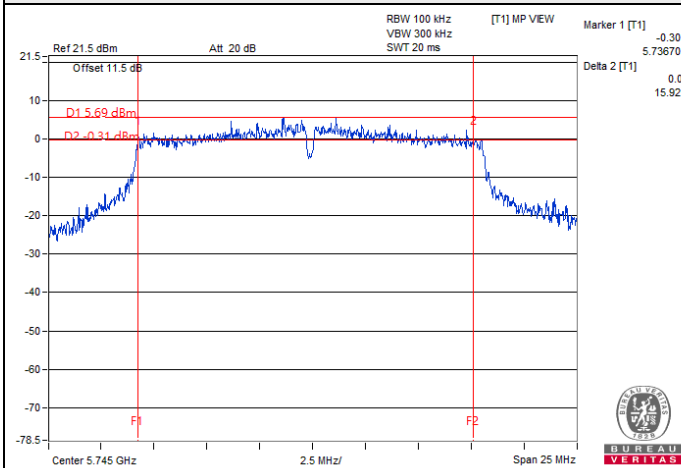
802.11ax (HE40)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
151	5755	37.79	37.37	0.5	Pass
159	5795	37.59	36.79	0.5	Pass

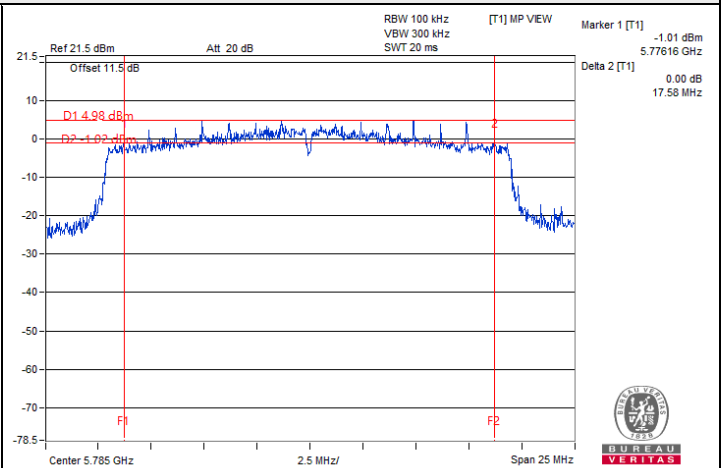
802.11ax (HE80)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
155	5775	77.06	75.84	0.5	Pass

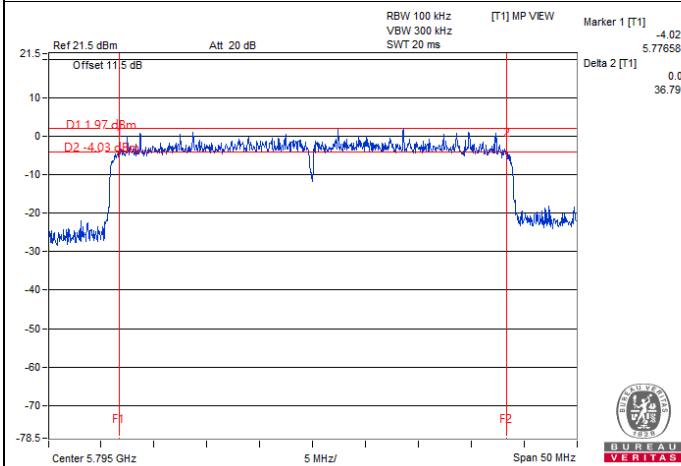
Spectrum Plot of Minimum Value



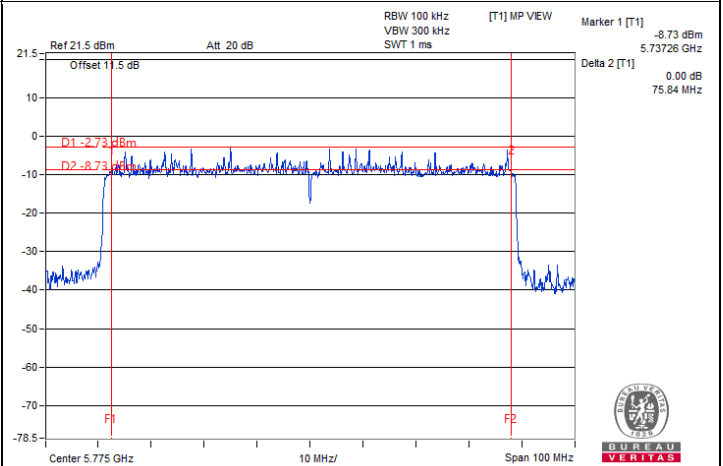
802.11a / Chain0 : CH 149



802.11ax (HE20) / Chain1 : CH 157



802.11ax (HE40) / Chain1 : CH 159



802.11ax (HE80) / Chain1 : CH 155

7.4 Occupied Bandwidth

Mode A

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Eric Peng
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802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	17.04	16.68
40	5200	16.80	16.92
48	5240	17.04	16.86
149	5745	16.98	16.68
157	5785	17.28	16.92
165	5825	17.70	16.86

802.11ax (HE20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	18.90	18.96
40	5200	19.02	18.96
48	5240	19.08	18.90
149	5745	19.14	18.96
157	5785	19.08	19.14
165	5825	19.20	19.08

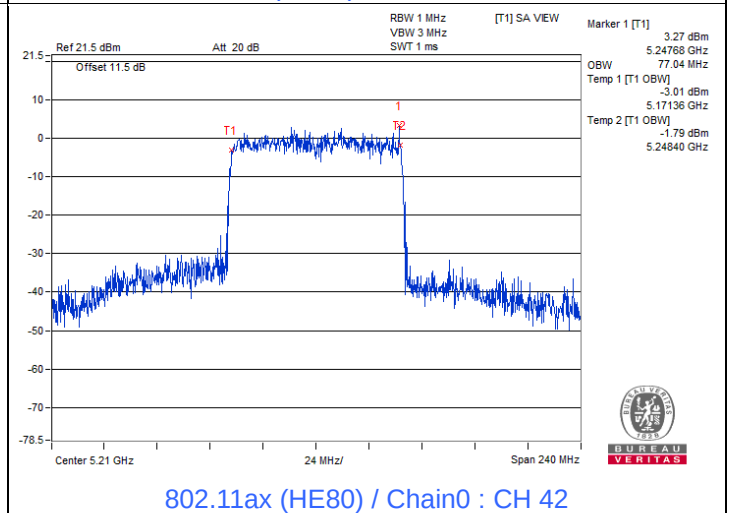
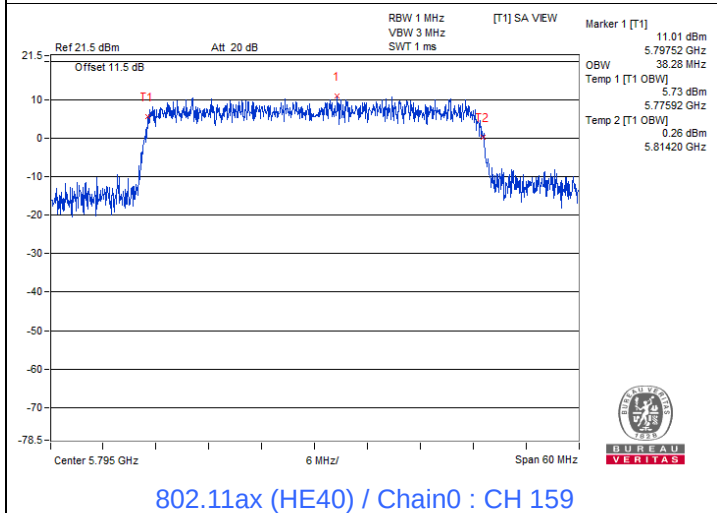
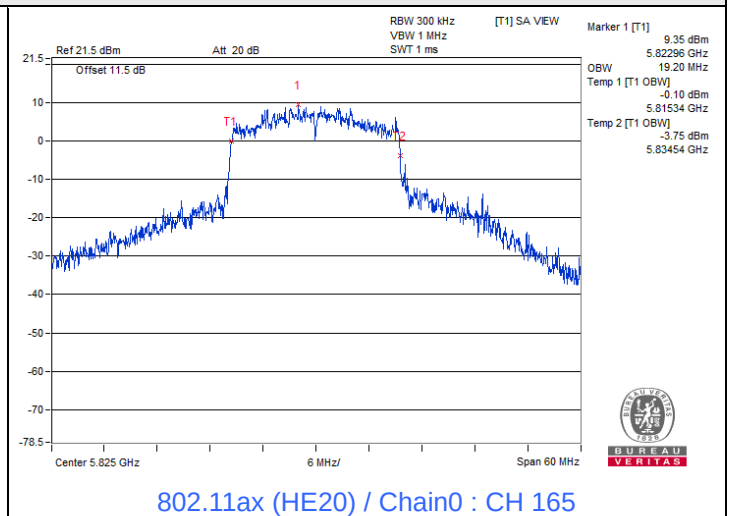
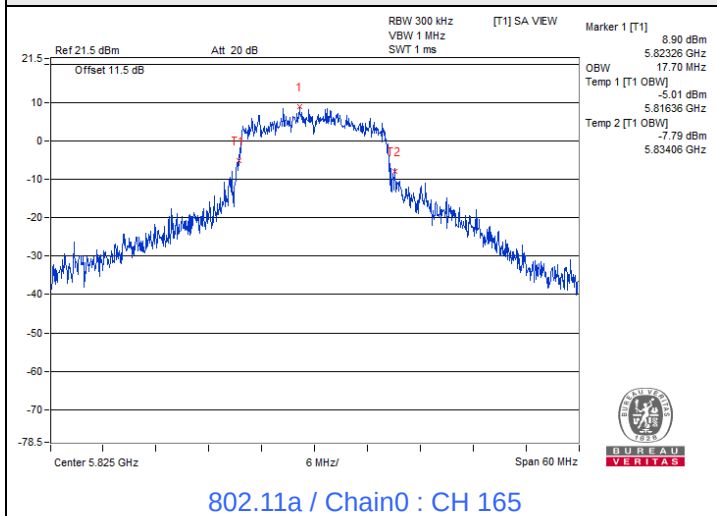
802.11ax (HE40)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	37.74	37.86
46	5230	38.04	37.80
151	5755	38.04	37.80
159	5795	38.28	38.16

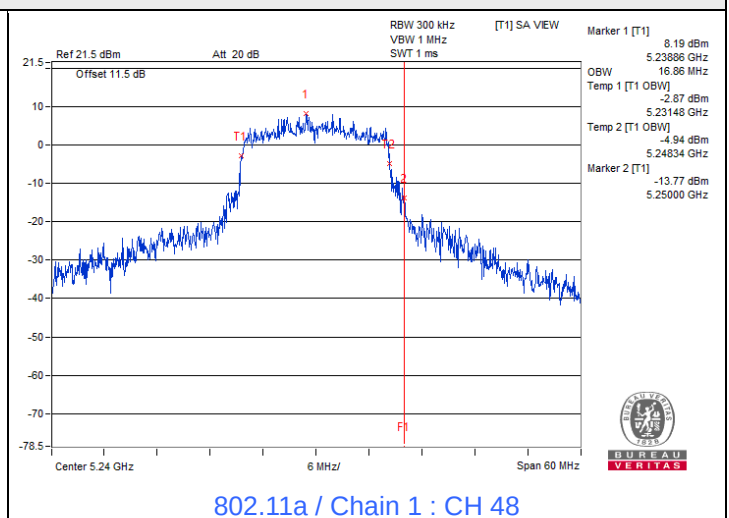
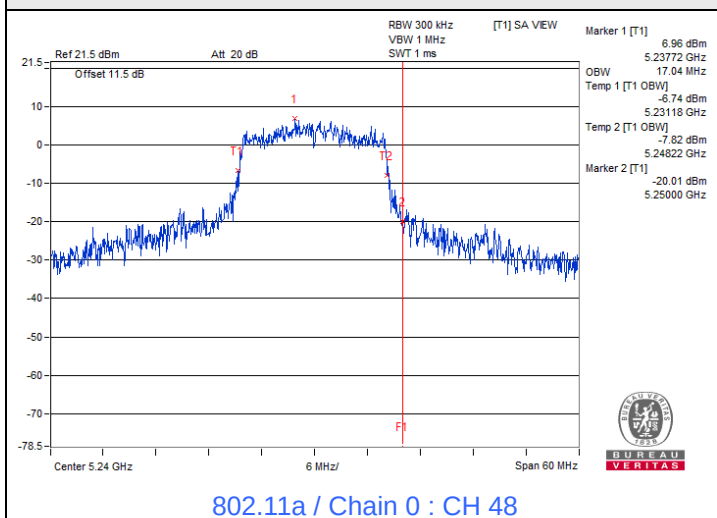
802.11ax (HE80)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	77.04	77.04
155	5775	77.04	77.04

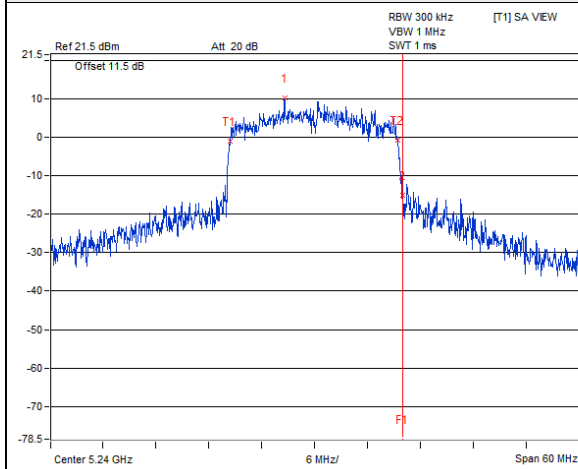
Spectrum Plot of Maximum Value



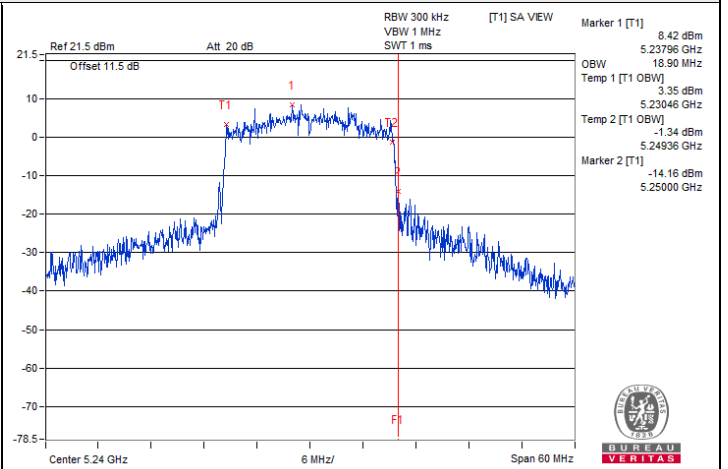
Spectrum Plot for nearby DFS band (DFS is required, if 99% OCP straddle into U-NII-2A band)



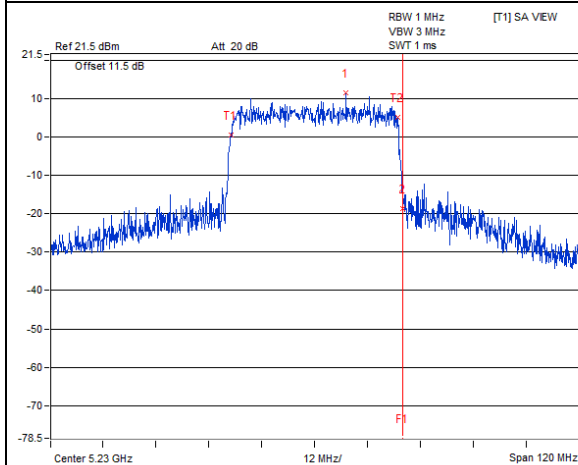
Spectrum Plot for nearby DFS band (DFS is required, if 99% OCP straddle into U-NII-2A band)



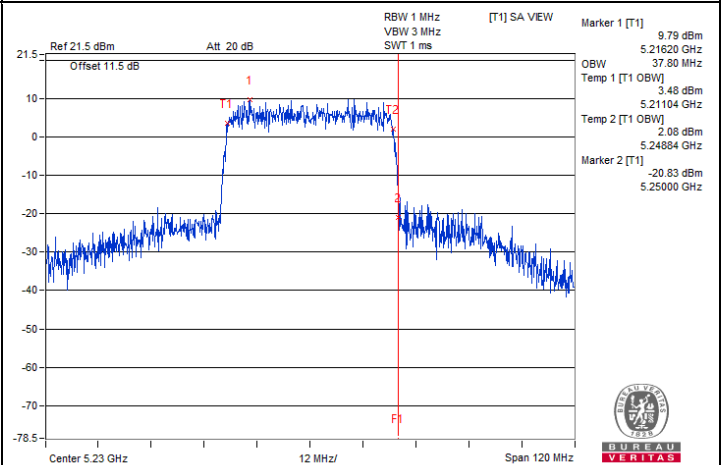
802.11ax (HE20) / Chain 0 : CH 48



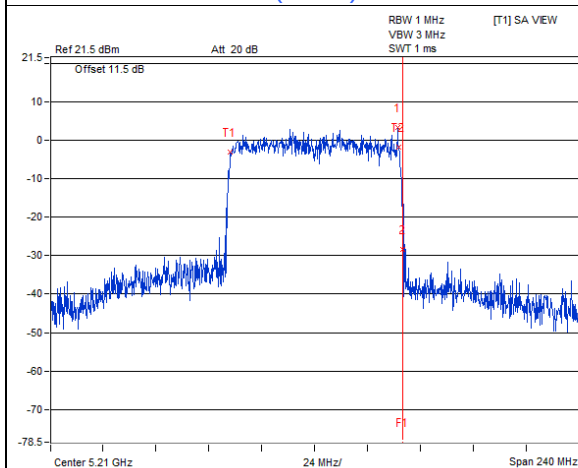
802.11ax (HE20) / Chain 1 : CH 48



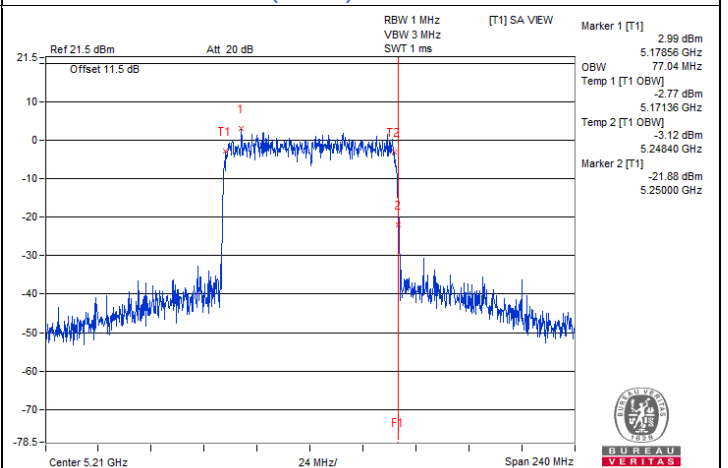
802.11ax (HE40) / Chain 0 : CH 46



802.11ax (HE40) / Chain 1 : CH 46

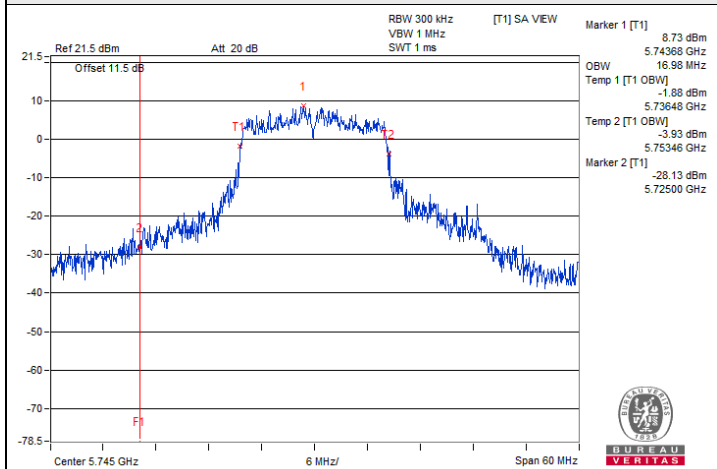


802.11ax (HE80) / Chain 0 : CH 42

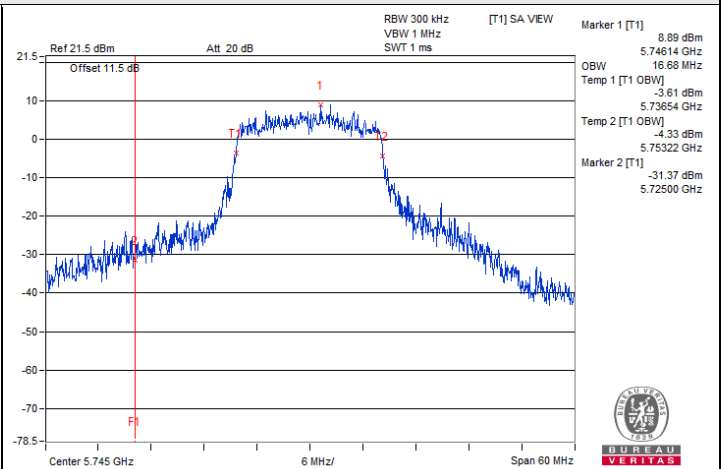


802.11ax (HE80) / Chain 1 : CH 42

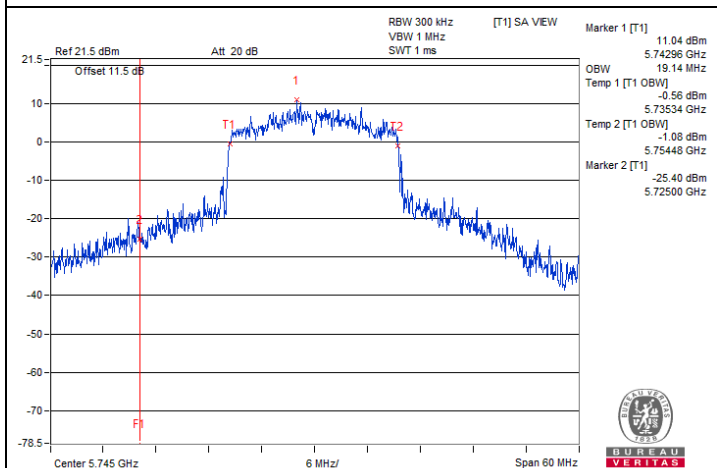
Spectrum Plot for nearby DFS band
(DFS is required, if 99% OCP straddle into U-NII-2C band)



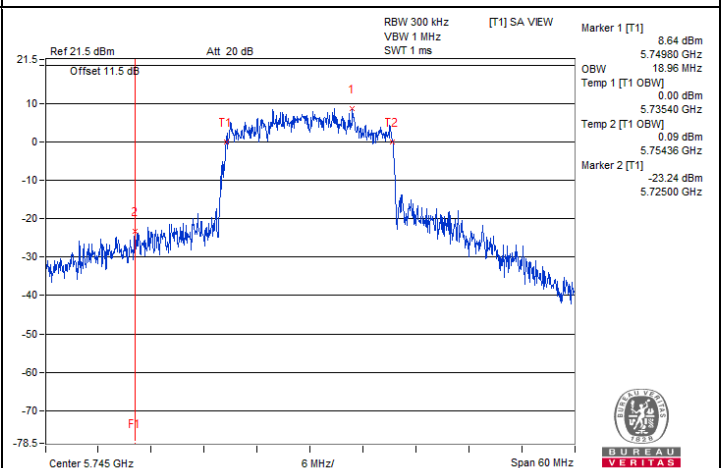
802.11a / Chain 0 : CH 149



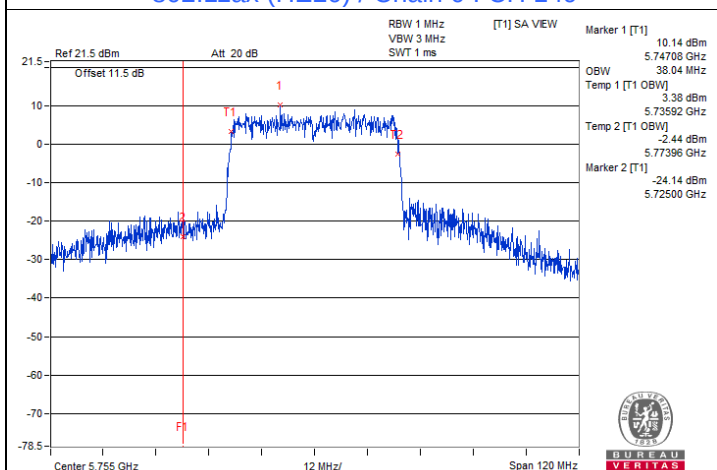
802.11a / Chain 1 : CH 149



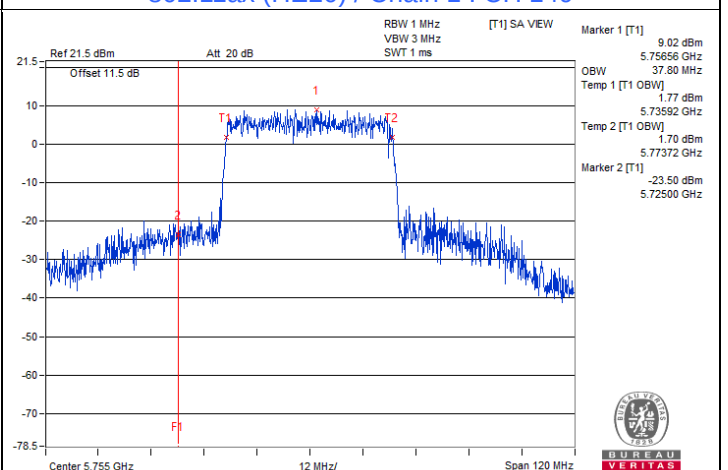
802.11ax (HE20) / Chain 0 : CH 149



802.11ax (HE20) / Chain 1 : CH 149

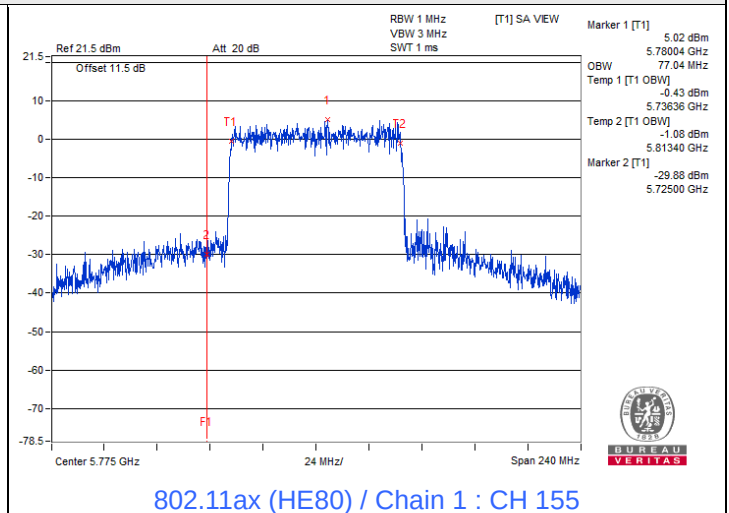
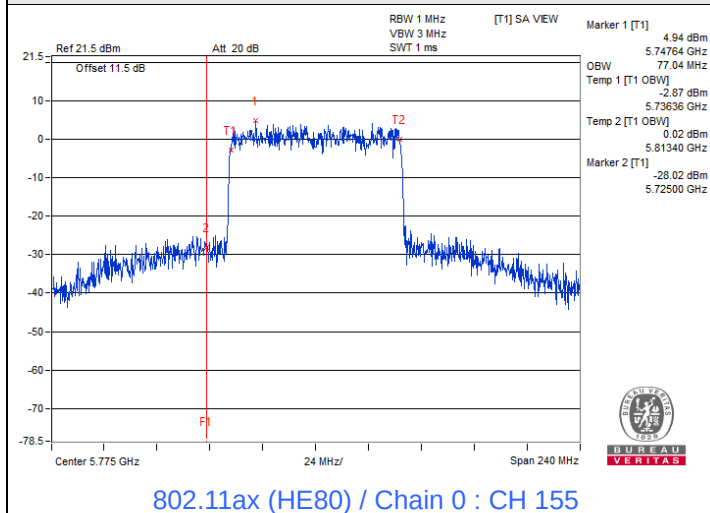


802.11ax (HE40) / Chain 0 : CH 151



802.11ax (HE40) / Chain 1 : CH 151

Spectrum Plot for nearby DFS band
(DFS is required, if 99% OCP straddle into U-NII-2C band)



Mode B

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Eric Peng
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802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	17.04	16.68
40	5200	16.86	16.74
48	5240	16.80	16.62

802.11ax (HE20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	18.90	18.96
40	5200	19.08	18.96
48	5240	19.02	18.84

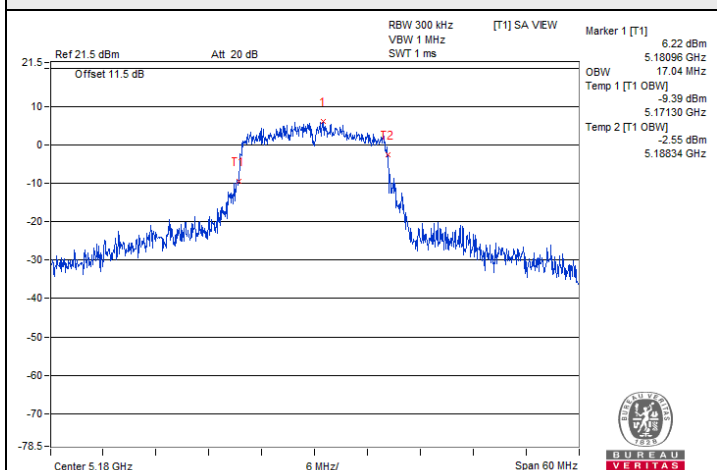
802.11ax (HE40)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	37.74	37.86
46	5230	38.04	37.80

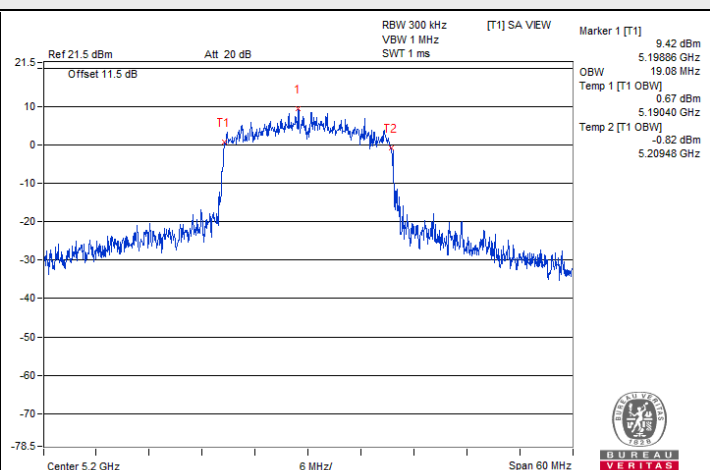
802.11ax (HE80)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	77.04	77.04

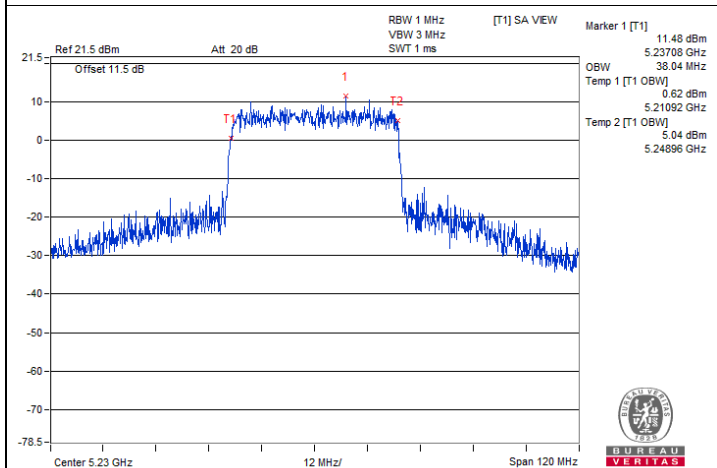
Spectrum Plot of Maximum Value



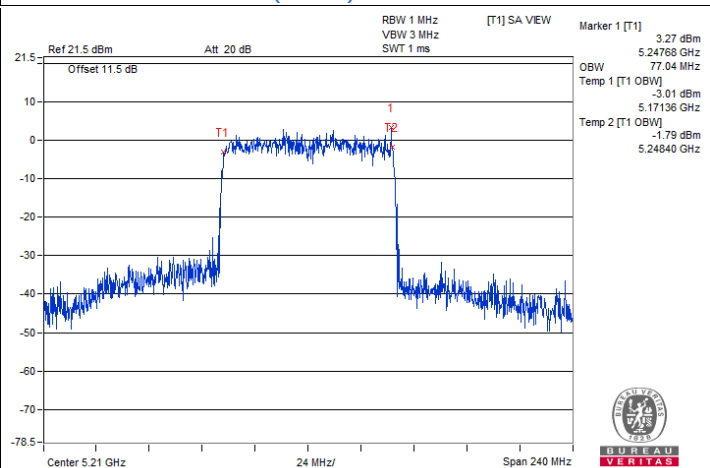
802.11a / Chain0 : CH 36



802.11ax (HE20) / Chain0 : CH 40

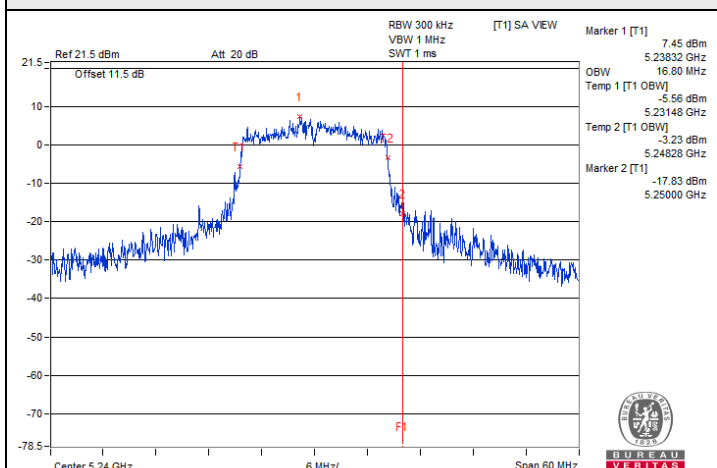


802.11ax (HE40) / Chain0 : CH 46

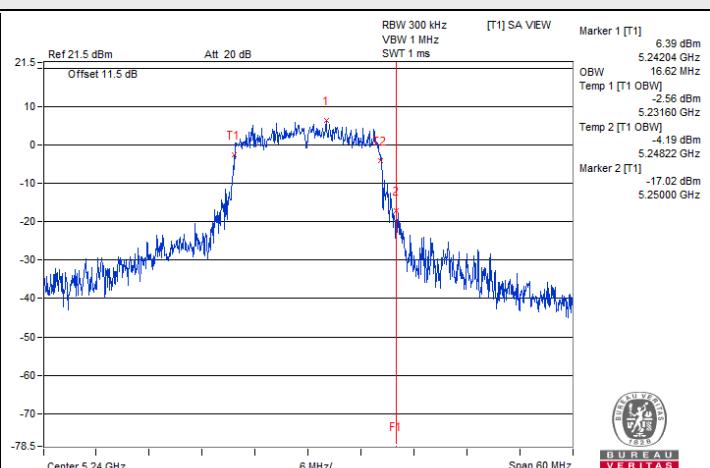


802.11ax (HE80) / Chain0 : CH 42

Spectrum Plot for nearby DFS band (DFS is required, if 99% OCP straddle into U-NII-2A band)

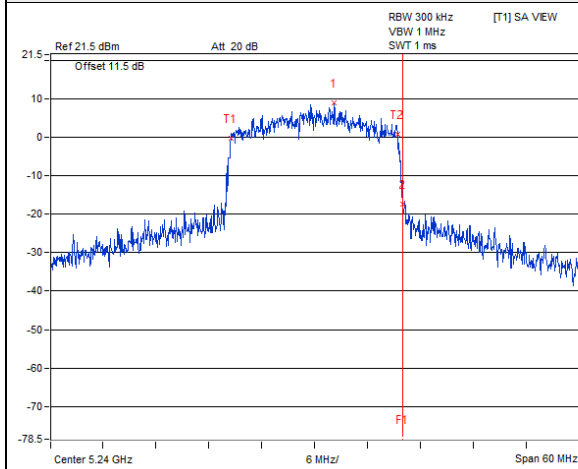


802.11a / Chain 0 : CH 48

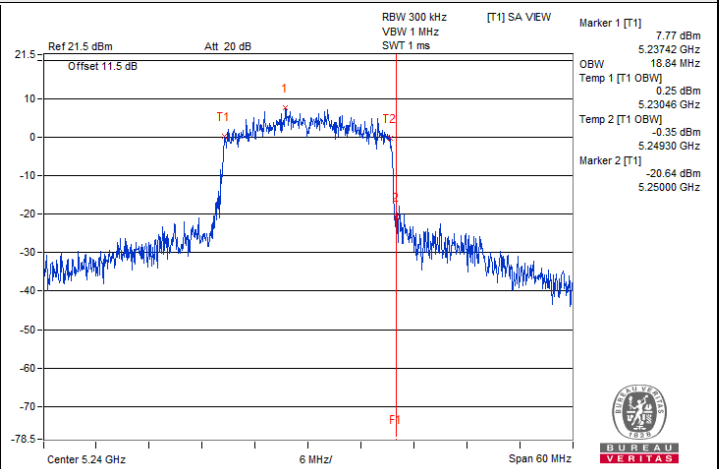


802.11a / Chain 1 : CH 48

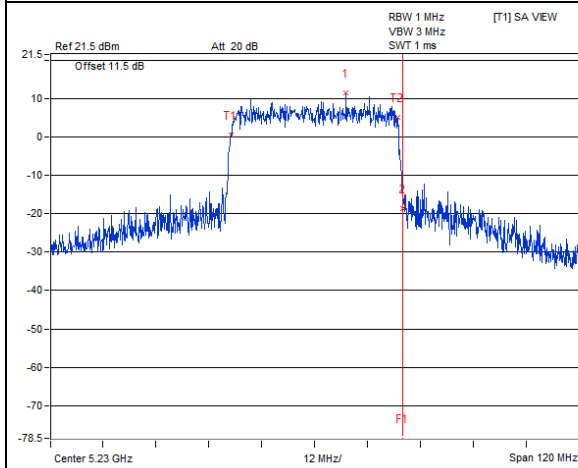
Spectrum Plot for nearby DFS band (DFS is required, if 99% OCP straddle into U-NII-2A band)



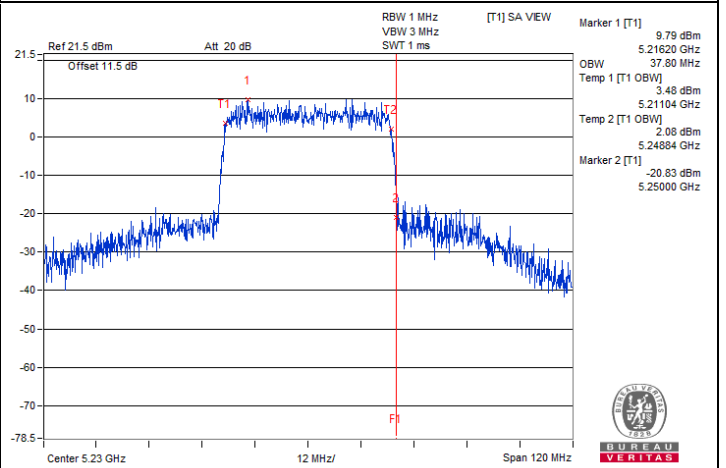
802.11ax (HE20) / Chain 0 : CH 48



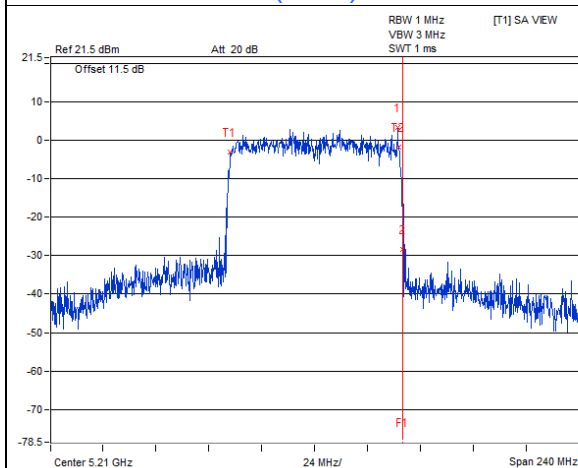
802.11ax (HE20) / Chain 1 : CH 48



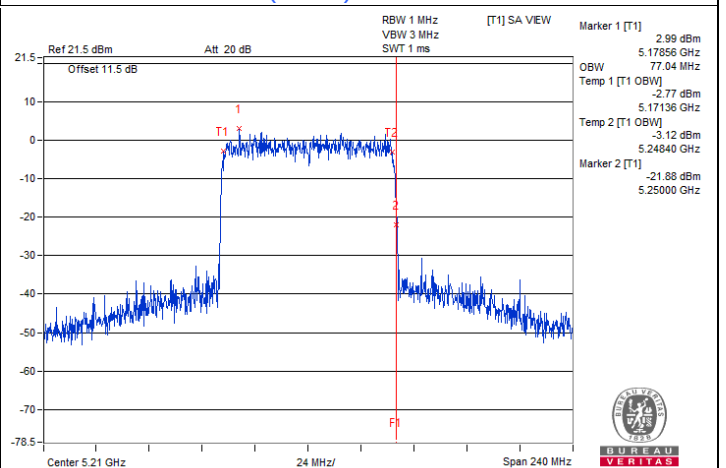
802.11ax (HE40) / Chain 0 : CH 46



802.11ax (HE40) / Chain 1 : CH 46



802.11ax (HE80) / Chain 0 : CH 42



802.11ax (HE80) / Chain 1 : CH 42

7.5 Frequency Stability

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Eric Peng
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802.11a

Frequency Stability Versus Temp.									
Operating Frequency: 5180 MHz									
TEMP. (°C)	Power Supply (Vac)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result
60	120	5180.005	Pass	5180.0038	Pass	5180.0059	Pass	5180.0049	Pass
50	120	5179.9913	Pass	5179.9923	Pass	5179.9906	Pass	5179.9905	Pass
40	120	5179.9871	Pass	5179.9846	Pass	5179.9869	Pass	5179.9829	Pass
30	120	5179.9932	Pass	5179.9949	Pass	5179.9935	Pass	5179.9939	Pass
20	120	5180.01	Pass	5180.0098	Pass	5180.0092	Pass	5180.011	Pass
10	120	5180.0026	Pass	5180.0048	Pass	5180.0072	Pass	5180.0026	Pass
0	120	5180.0226	Pass	5180.0229	Pass	5180.0244	Pass	5180.0265	Pass
-10	120	5180.0229	Pass	5180.0239	Pass	5180.0234	Pass	5180.0263	Pass
-20	120	5179.98	Pass	5179.9806	Pass	5179.9825	Pass	5179.982	Pass
-30	120	5180.0069	Pass	5180.0078	Pass	5180.0078	Pass	5180.0077	Pass

Frequency Stability Versus Voltage									
Operating Frequency: 5180 MHz									
TEMP. (°C)	Power Supply (Vac)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result
20	138	5180.0089	Pass	5180.0082	Pass	5180.0089	Pass	5180.0119	Pass
	120	5180.01	Pass	5180.0098	Pass	5180.0092	Pass	5180.011	Pass
	102	5179.9986	Pass	5180.0002	Pass	5180.0005	Pass	5180.0008	Pass

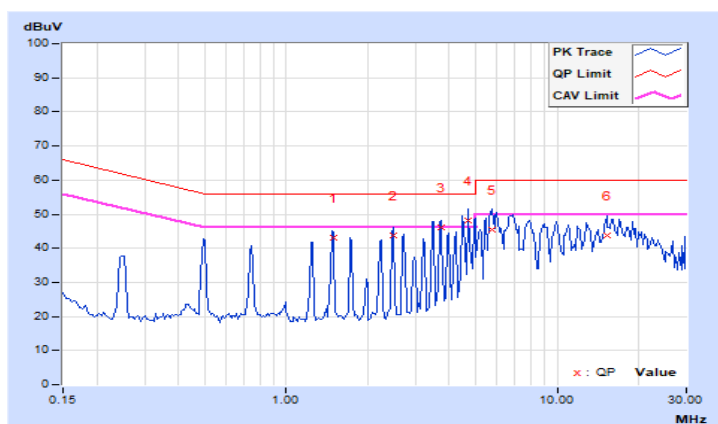
7.6 AC Power Conducted Emissions

RF Mode	TX 802.11ax (HE40)	Channel	CH 159 : 5795 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Carter Lin		

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	1.49609	10.02	33.23	26.18	43.25	36.20	56.00	46.00	-12.75	-9.80
2	2.48047	10.07	33.86	26.13	43.93	36.20	56.00	46.00	-12.07	-9.80
3	3.74609	10.14	36.08	25.14	46.22	35.28	56.00	46.00	-9.78	-10.72
4	4.68750	10.19	37.95	28.56	48.14	38.75	56.00	46.00	-7.86	-7.25
5	5.72266	10.25	35.33	24.51	45.58	34.76	60.00	50.00	-14.42	-15.24
6	15.22266	10.81	32.82	22.66	43.63	33.47	60.00	50.00	-16.37	-16.53

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

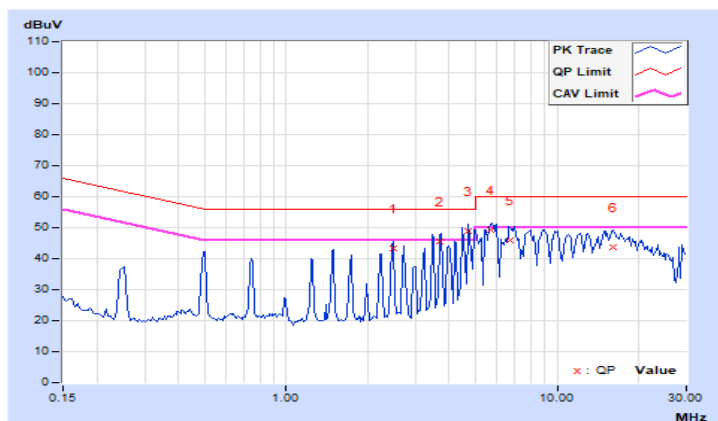


RF Mode	TX 802.11ax (HE40)	Channel	CH 159 : 5795 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Carter Lin		

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	2.48047	10.04	33.12	25.38	43.16	35.42	56.00	46.00	-12.84	-10.58
2	3.69922	10.09	35.46	26.57	45.55	36.66	56.00	46.00	-10.45	-9.34
3	4.68359	10.13	38.62	29.85	48.75	39.98	56.00	46.00	-7.25	-6.02
4	5.66797	10.18	38.95	29.91	49.13	40.09	60.00	50.00	-10.87	-9.91
5	6.73828	10.22	35.89	25.77	46.11	35.99	60.00	50.00	-13.89	-14.01
6	16.02344	10.65	33.04	24.19	43.69	34.84	60.00	50.00	-16.31	-15.16

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value



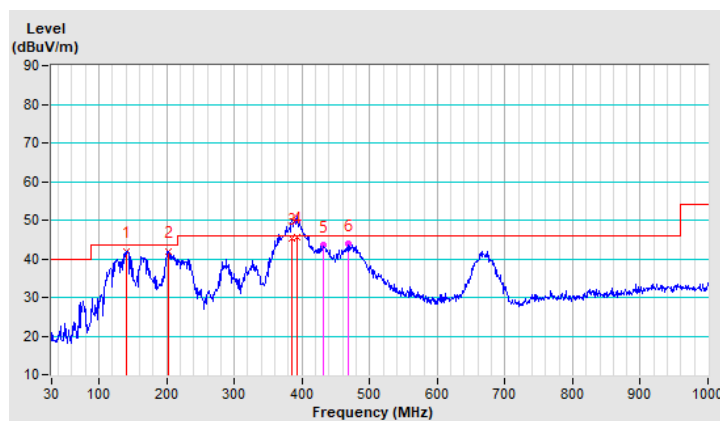
7.7 Unwanted Emissions below 1 GHz

RF Mode	TX 802.11ax (HE40)	Channel	CH 159 : 5795 MHz
Frequency Range	9 kHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 65% RH
Tested By	Nelson Teng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	141.54	42.0 QP	43.5	-1.5	2.00 H	297	50.4	-8.4
2	203.05	42.0 QP	43.5	-1.5	1.50 H	297	53.3	-11.3
3	385.09	45.4 QP	46.0	-0.6	1.00 H	242	51.1	-5.7
4	392.20	45.6 QP	46.0	-0.4	1.00 H	246	51.2	-5.6
5	431.15	43.4 QP	46.0	-2.6	1.50 H	183	47.6	-4.2
6	468.54	43.8 QP	46.0	-2.2	1.50 H	194	47.3	-3.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

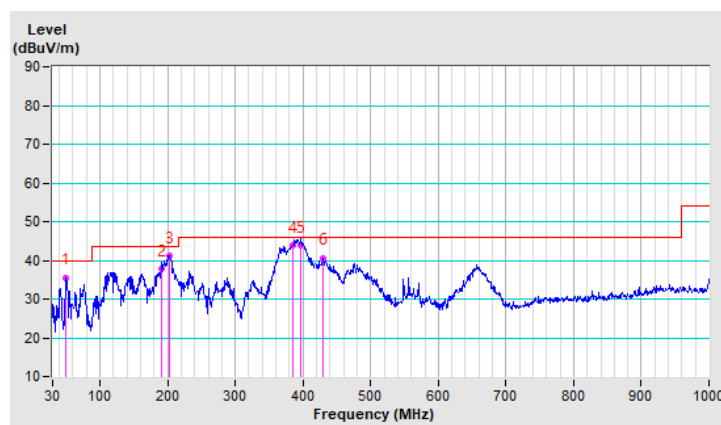


RF Mode	TX 802.11ax (HE40)	Channel	CH 159 : 5795 MHz
Frequency Range	9 kHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 65% RH
Tested By	Nelson Teng		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	50.03	35.5 QP	40.0	-4.5	2.00 V	0	43.7	-8.2
2	190.44	37.7 QP	43.5	-5.8	1.00 V	231	48.6	-10.9
3	201.69	41.1 QP	43.5	-2.4	1.00 V	359	52.3	-11.2
4	385.26	43.8 QP	46.0	-2.2	1.00 V	116	49.5	-5.7
5	397.19	43.8 QP	46.0	-2.2	2.00 V	0	49.2	-5.4
6	429.40	40.5 QP	46.0	-5.5	2.00 V	254	44.7	-4.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



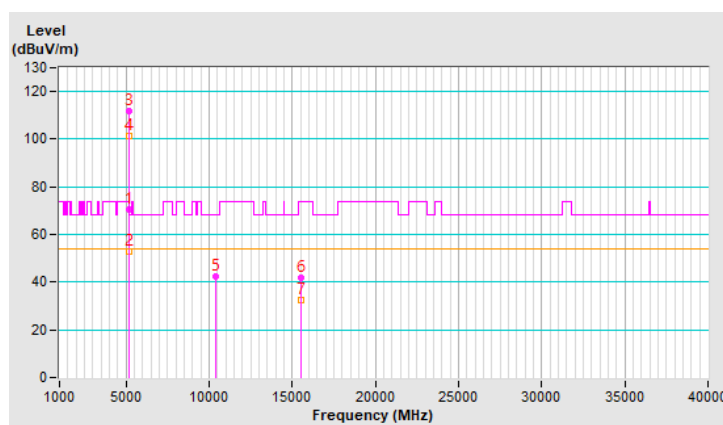
7.8 Unwanted Emissions above 1 GHz

RF Mode	TX 802.11a	Channel	CH 36 : 5180 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nelson Teng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5148.22	70.3 PK	74.0	-3.7	1.53 H	284	65.5	4.8
2	5148.22	52.7 AV	54.0	-1.3	1.53 H	284	47.9	4.8
3	*5180.00	111.7 PK			1.53 H	284	107.0	4.7
4	*5180.00	101.4 AV			1.53 H	284	96.7	4.7
5	#10360.00	42.2 PK	68.2	-26.0	2.63 H	215	28.0	14.2
6	15540.00	41.9 PK	74.0	-32.1	1.35 H	94	27.4	14.5
7	15540.00	32.4 AV	54.0	-21.6	1.35 H	94	17.9	14.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

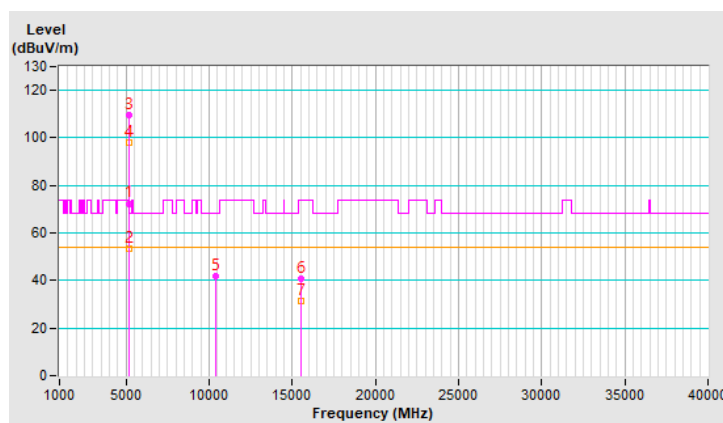


RF Mode	TX 802.11a	Channel	CH 36 : 5180 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nelson Teng		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	72.4 PK	74.0	-1.6	2.54 V	3	67.6	4.8
2	5150.00	53.6 AV	54.0	-0.4	2.54 V	3	48.8	4.8
3	*5180.00	109.8 PK			2.54 V	3	105.1	4.7
4	*5180.00	98.1 AV			2.54 V	3	93.4	4.7
5	#10360.00	41.7 PK	68.2	-26.5	3.04 V	135	27.5	14.2
6	15540.00	40.7 PK	74.0	-33.3	2.63 V	312	26.2	14.5
7	15540.00	31.2 AV	54.0	-22.8	2.63 V	312	16.7	14.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

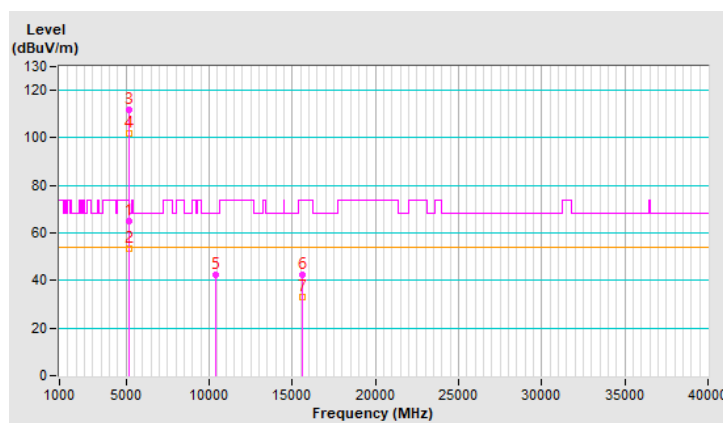


RF Mode	TX 802.11a	Channel	CH 40 : 5200 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nelson Teng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	65.1 PK	74.0	-8.9	1.59 H	288	60.3	4.8
2	5150.00	53.4 AV	54.0	-0.6	1.59 H	288	48.6	4.8
3	*5200.00	111.7 PK			1.59 H	288	107.0	4.7
4	*5200.00	101.7 AV			1.59 H	288	97.0	4.7
5	#10400.00	42.5 PK	68.2	-25.7	2.60 H	223	28.3	14.2
6	15600.00	42.4 PK	74.0	-31.6	1.33 H	81	28.2	14.2
7	15600.00	32.9 AV	54.0	-21.1	1.33 H	81	18.7	14.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

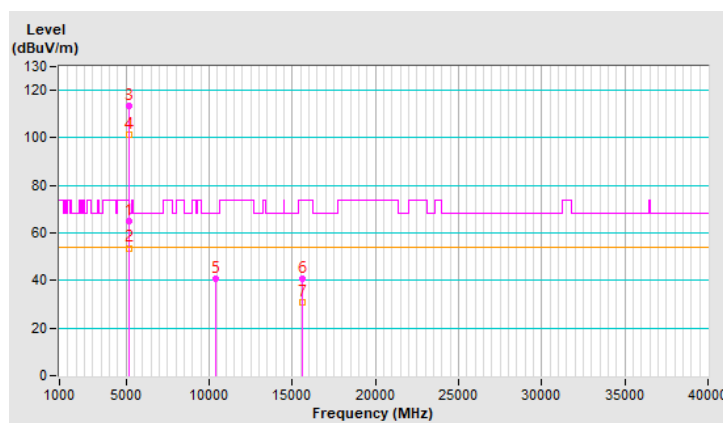


RF Mode	TX 802.11a	Channel	CH 40 : 5200 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nelson Teng		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	64.8 PK	74.0	-9.2	2.15 V	200	60.0	4.8
2	5150.00	53.7 AV	54.0	-0.3	2.15 V	200	48.9	4.8
3	*5200.00	113.7 PK			2.15 V	200	109.0	4.7
4	*5200.00	101.4 AV			2.15 V	200	96.7	4.7
5	#10400.00	40.8 PK	68.2	-27.4	2.99 V	130	26.6	14.2
6	15600.00	40.5 PK	74.0	-33.5	2.64 V	287	26.3	14.2
7	15600.00	31.0 AV	54.0	-23.0	2.64 V	287	16.8	14.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

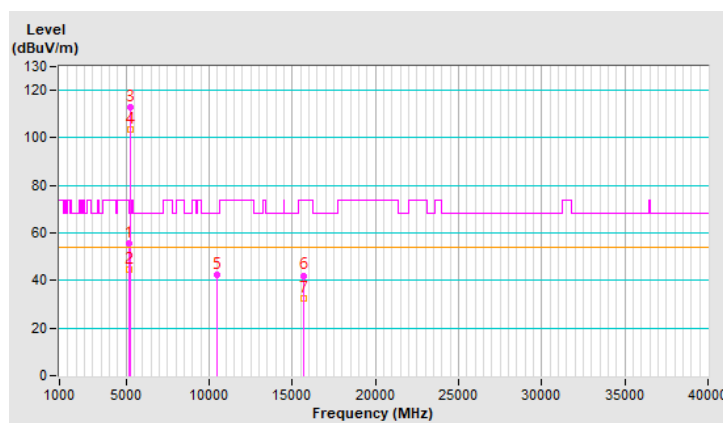


RF Mode	TX 802.11a	Channel	CH 48 : 5240 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nelson Teng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	55.4 PK	74.0	-18.6	1.41 H	286	50.6	4.8
2	5150.00	44.4 AV	54.0	-9.6	1.41 H	286	39.6	4.8
3	*5240.00	112.9 PK			1.41 H	286	108.5	4.4
4	*5240.00	103.5 AV			1.41 H	286	99.1	4.4
5	#10480.00	42.5 PK	68.2	-25.7	2.61 H	228	28.1	14.4
6	15720.00	42.1 PK	74.0	-31.9	1.41 H	78	28.8	13.3
7	15720.00	32.7 AV	54.0	-21.3	1.41 H	78	19.4	13.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

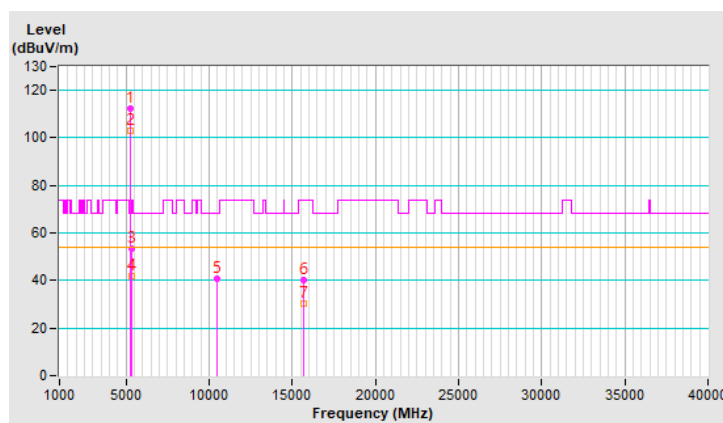


RF Mode	TX 802.11a	Channel	CH 48 : 5240 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nelson Teng		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	112.5 PK			2.46 V	360	108.1	4.4
2	*5240.00	102.8 AV			2.46 V	360	98.4	4.4
3	5350.00	53.2 PK	74.0	-20.8	2.46 V	360	48.5	4.7
4	5350.00	41.7 AV	54.0	-12.3	2.46 V	360	37.0	4.7
5	#10480.00	40.7 PK	68.2	-27.5	3.04 V	127	26.3	14.4
6	15720.00	40.3 PK	74.0	-33.7	2.73 V	313	27.0	13.3
7	15720.00	30.5 AV	54.0	-23.5	2.73 V	313	17.2	13.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * " : Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # " : The radiated frequency is out of the restricted band.

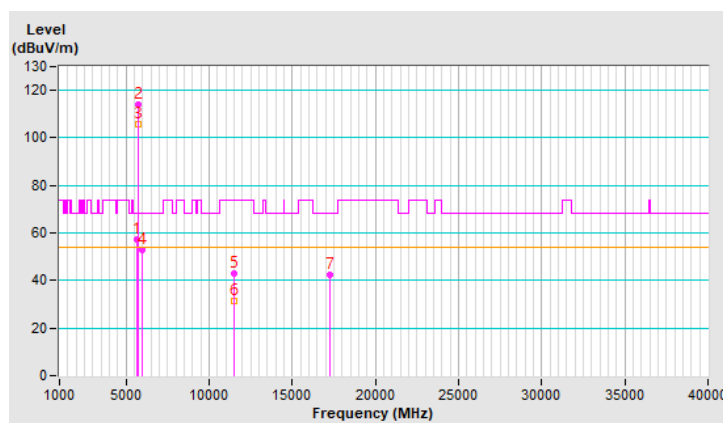


RF Mode	TX 802.11a	Channel	CH 149 : 5745 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nelson Teng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5648.47	57.4 PK	68.2	-10.8	1.41 H	79	52.5	4.9
2	*5745.00	114.0 PK			1.41 H	79	108.9	5.1
3	*5745.00	105.5 AV			1.41 H	79	100.4	5.1
4	#5962.60	53.1 PK	68.2	-15.1	1.41 H	79	47.5	5.6
5	11490.00	42.8 PK	74.0	-31.2	2.68 H	223	27.6	15.2
6	11490.00	31.4 AV	54.0	-22.6	2.68 H	223	16.2	15.2
7	#17235.00	42.5 PK	68.2	-25.7	1.43 H	79	24.0	18.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

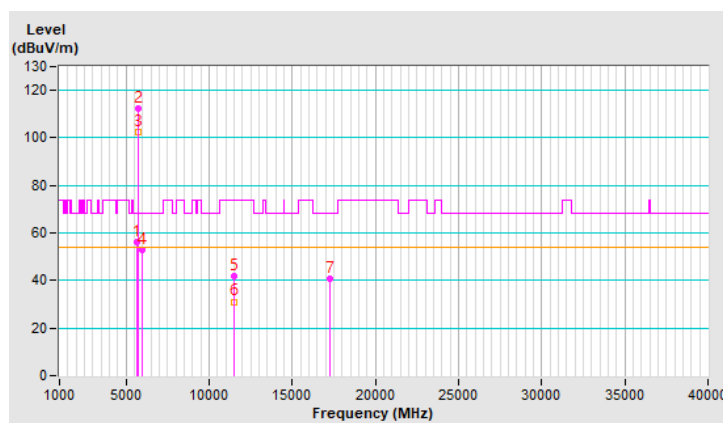


RF Mode	TX 802.11a	Channel	CH 149 : 5745 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nelson Teng		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5644.58	56.4 PK	68.2	-11.8	2.60 V	12	51.5	4.9
2	*5745.00	112.5 PK			2.60 V	12	107.4	5.1
3	*5745.00	102.4 AV			2.60 V	12	97.3	5.1
4	#5946.72	53.1 PK	68.2	-15.1	2.60 V	12	47.5	5.6
5	11490.00	41.6 PK	74.0	-32.4	3.03 V	118	26.4	15.2
6	11490.00	31.1 AV	54.0	-22.9	3.03 V	118	15.9	15.2
7	#17235.00	40.9 PK	68.2	-27.3	2.66 V	313	22.4	18.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

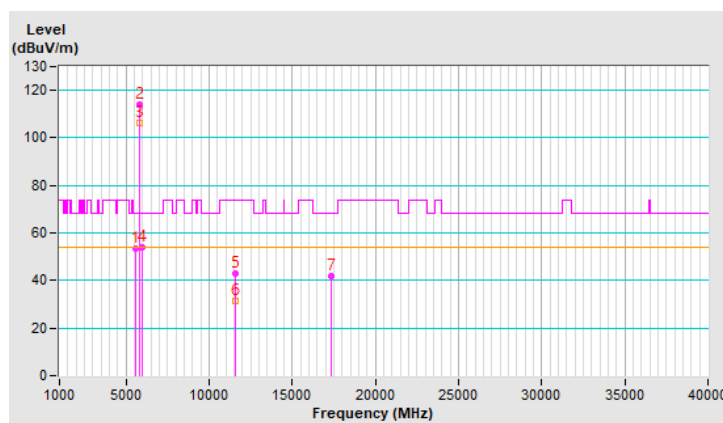


RF Mode	TX 802.11a	Channel	CH 157 : 5785 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nelson Teng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5615.59	53.3 PK	68.2	-14.9	1.39 H	70	48.4	4.9
2	*5785.00	113.8 PK			1.39 H	70	108.6	5.2
3	*5785.00	106.4 AV			1.39 H	70	101.2	5.2
4	#5934.73	54.0 PK	68.2	-14.2	1.39 H	70	48.4	5.6
5	11570.00	43.1 PK	74.0	-30.9	2.67 H	220	27.9	15.2
6	11570.00	31.5 AV	54.0	-22.5	2.67 H	220	16.3	15.2
7	#17355.00	42.0 PK	68.2	-26.2	1.39 H	83	23.1	18.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * " : Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # " : The radiated frequency is out of the restricted band.

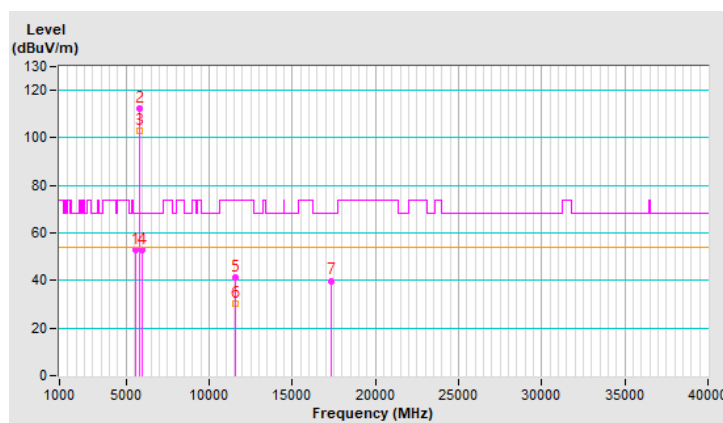


RF Mode	TX 802.11a	Channel	CH 157 : 5785 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nelson Teng		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5551.76	52.9 PK	68.2	-15.3	2.61 V	26	48.0	4.9
2	*5785.00	112.6 PK			2.61 V	26	107.4	5.2
3	*5785.00	103.0 AV			2.61 V	26	97.8	5.2
4	#5949.95	52.7 PK	68.2	-15.5	2.61 V	26	47.1	5.6
5	11570.00	41.2 PK	74.0	-32.8	3.05 V	116	26.0	15.2
6	11570.00	30.5 AV	54.0	-23.5	3.05 V	116	15.3	15.2
7	#17355.00	39.9 PK	68.2	-28.3	2.65 V	293	21.0	18.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

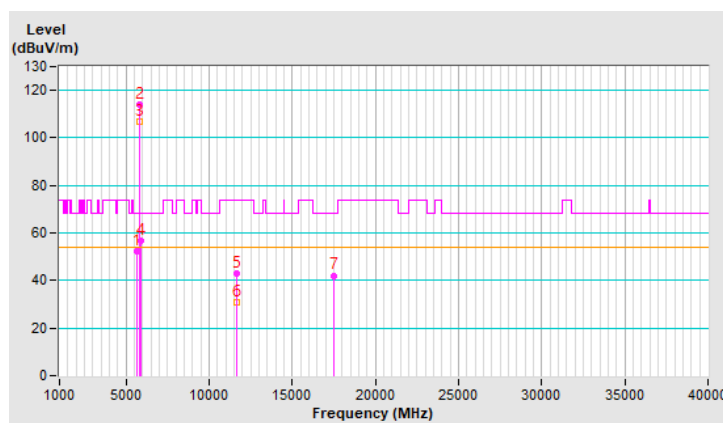


RF Mode	TX 802.11a	Channel	CH 165 : 5825 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nelson Teng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5645.33	52.4 PK	68.2	-15.8	1.32 H	69	47.5	4.9
2	*5825.00	114.2 PK			1.32 H	69	108.8	5.4
3	*5825.00	106.6 AV			1.32 H	69	101.2	5.4
4	#5929.34	56.6 PK	68.2	-11.6	1.32 H	69	51.0	5.6
5	11650.00	42.7 PK	74.0	-31.3	2.65 H	221	27.6	15.1
6	11650.00	31.0 AV	54.0	-23.0	2.65 H	221	15.9	15.1
7	#17475.00	42.1 PK	68.2	-26.1	1.37 H	85	23.1	19.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * " : Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # " : The radiated frequency is out of the restricted band.

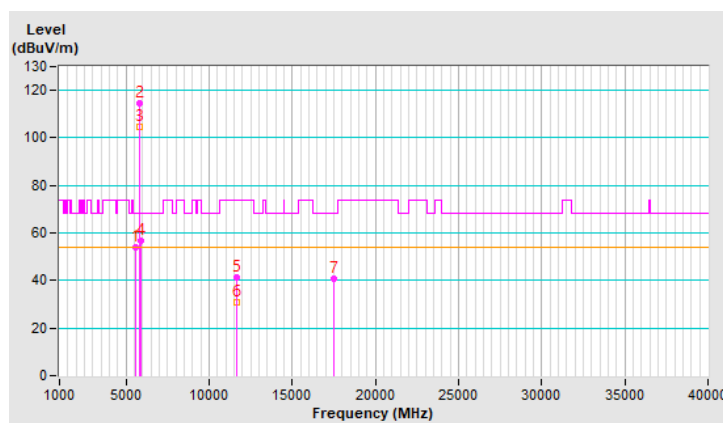


RF Mode	TX 802.11a	Channel	CH 165 : 5825 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nelson Teng		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5571.21	53.9 PK	68.2	-14.3	2.56 V	21	49.0	4.9
2	*5825.00	114.5 PK			2.56 V	21	109.1	5.4
3	*5825.00	104.4 AV			2.56 V	21	99.0	5.4
4	#5925.08	56.9 PK	68.2	-11.3	2.56 V	21	51.3	5.6
5	11650.00	41.4 PK	74.0	-32.6	3.03 V	126	26.3	15.1
6	11650.00	30.7 AV	54.0	-23.3	3.03 V	126	15.6	15.1
7	#17475.00	40.6 PK	68.2	-27.6	2.69 V	299	21.6	19.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

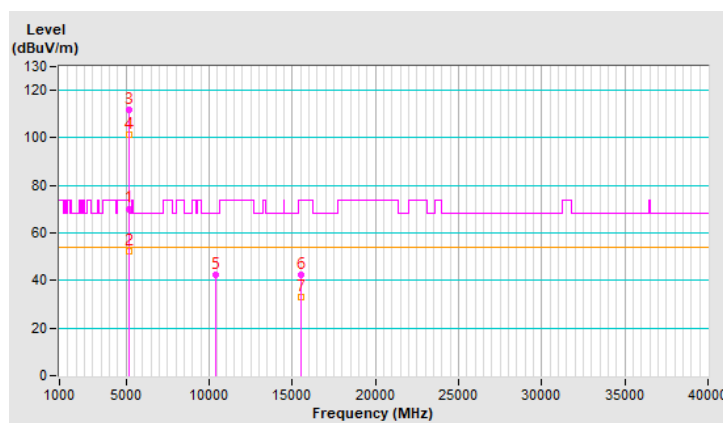


RF Mode	TX 802.11ax (HE20)	Channel	CH 36 : 5180 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nelson Teng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	70.2 PK	74.0	-3.8	1.51 H	298	65.4	4.8
2	5150.00	52.5 AV	54.0	-1.5	1.51 H	298	47.7	4.8
3	*5180.00	111.7 PK			1.51 H	298	107.0	4.7
4	*5180.00	101.3 AV			1.51 H	298	96.6	4.7
5	#10360.00	42.4 PK	68.2	-25.8	2.62 H	219	28.2	14.2
6	15540.00	42.5 PK	74.0	-31.5	1.35 H	84	28.0	14.5
7	15540.00	32.8 AV	54.0	-21.2	1.35 H	84	18.3	14.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

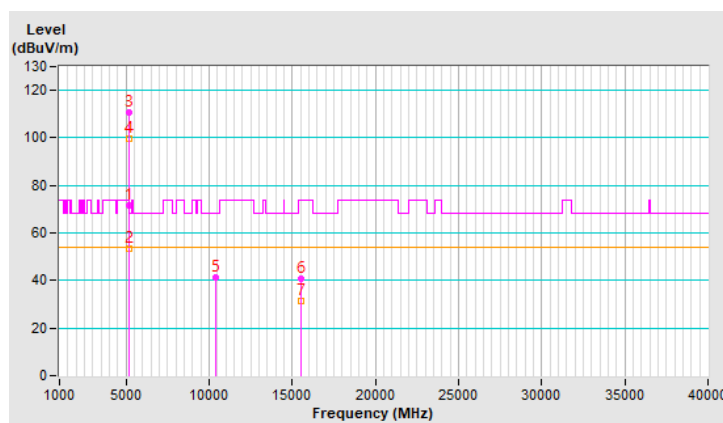


RF Mode	TX 802.11ax (HE20)	Channel	CH 36 : 5180 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nelson Teng		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	71.6 PK	74.0	-2.4	2.63 V	2	66.8	4.8
2	5150.00	53.3 AV	54.0	-0.7	2.63 V	2	48.5	4.8
3	*5180.00	110.8 PK			2.63 V	2	106.1	4.7
4	*5180.00	99.9 AV			2.63 V	2	95.2	4.7
5	#10360.00	41.5 PK	68.2	-26.7	2.97 V	117	27.3	14.2
6	15540.00	40.8 PK	74.0	-33.2	2.73 V	300	26.3	14.5
7	15540.00	31.2 AV	54.0	-22.8	2.73 V	300	16.7	14.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

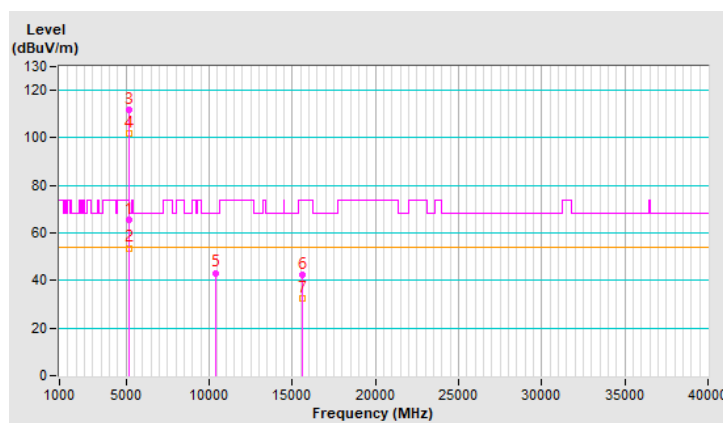


RF Mode	TX 802.11ax (HE20)	Channel	CH 40 : 5200 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nelson Teng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	65.4 PK	74.0	-8.6	1.65 H	274	60.6	4.8
2	5150.00	53.7 AV	54.0	-0.3	1.65 H	274	48.9	4.8
3	*5200.00	111.9 PK			1.65 H	274	107.2	4.7
4	*5200.00	102.0 AV			1.65 H	274	97.3	4.7
5	#10400.00	43.2 PK	68.2	-25.0	2.63 H	220	29.0	14.2
6	15600.00	42.4 PK	74.0	-31.6	1.38 H	65	28.2	14.2
7	15600.00	32.7 AV	54.0	-21.3	1.38 H	65	18.5	14.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

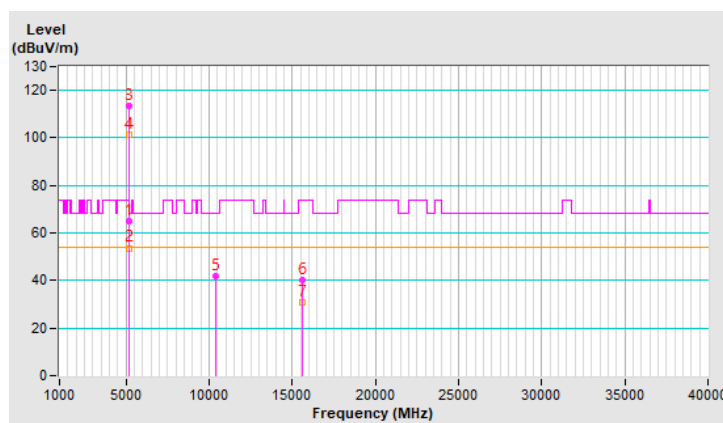


RF Mode	TX 802.11ax (HE20)	Channel	CH 40 : 5200 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nelson Teng		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	65.0 PK	74.0	-9.0	2.15 V	201	60.2	4.8
2	5150.00	53.7 AV	54.0	-0.3	2.15 V	201	48.9	4.8
3	*5200.00	113.3 PK			2.15 V	201	108.6	4.7
4	*5200.00	101.1 AV			2.15 V	201	96.4	4.7
5	#10400.00	41.8 PK	68.2	-26.4	3.06 V	113	27.6	14.2
6	15600.00	40.3 PK	74.0	-33.7	2.67 V	288	26.1	14.2
7	15600.00	30.7 AV	54.0	-23.3	2.67 V	288	16.5	14.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

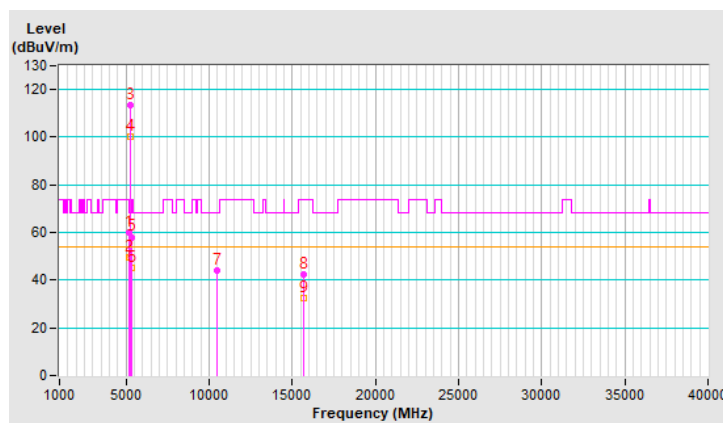


RF Mode	TX 802.11ax (HE20)	Channel	CH 48 : 5240 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nelson Teng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	60.2 PK	74.0	-13.8	1.39 H	284	55.4	4.8
2	5150.00	49.6 AV	54.0	-4.4	1.39 H	284	44.8	4.8
3	*5240.00	113.5 PK			1.39 H	284	109.1	4.4
4	*5240.00	100.0 AV			1.39 H	284	95.6	4.4
5	5350.00	58.1 PK	74.0	-15.9	1.39 H	284	53.4	4.7
6	5350.00	45.0 AV	54.0	-9.0	1.39 H	284	40.3	4.7
7	#10480.00	43.8 PK	68.2	-24.4	2.67 H	225	29.4	14.4
8	15720.00	42.2 PK	74.0	-31.8	1.38 H	79	28.9	13.3
9	15720.00	32.4 AV	54.0	-21.6	1.38 H	79	19.1	13.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

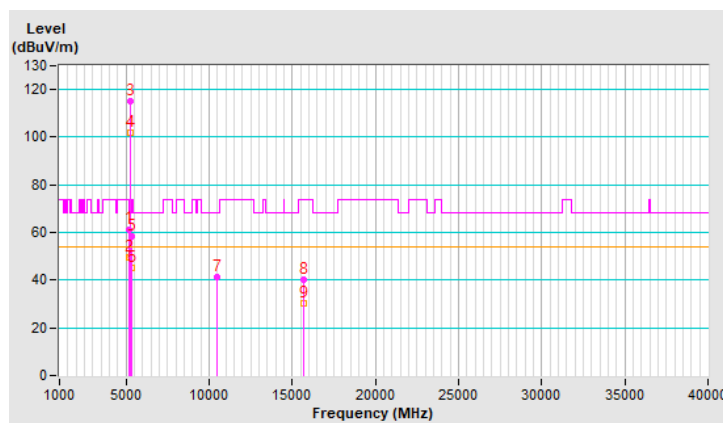


RF Mode	TX 802.11ax (HE20)	Channel	CH 48 : 5240 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nelson Teng		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	61.4 PK	74.0	-12.6	2.53 V	3	56.6	4.8
2	5150.00	49.6 AV	54.0	-4.4	2.53 V	3	44.8	4.8
3	*5240.00	115.3 PK			2.53 V	3	110.9	4.4
4	*5240.00	101.8 AV			2.53 V	3	97.4	4.4
5	5350.00	58.3 PK	74.0	-15.7	2.53 V	3	53.6	4.7
6	5350.00	45.4 AV	54.0	-8.6	2.53 V	3	40.7	4.7
7	#10480.00	41.4 PK	68.2	-26.8	3.07 V	115	27.0	14.4
8	15720.00	40.0 PK	74.0	-34.0	2.70 V	298	26.7	13.3
9	15720.00	30.4 AV	54.0	-23.6	2.70 V	298	17.1	13.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

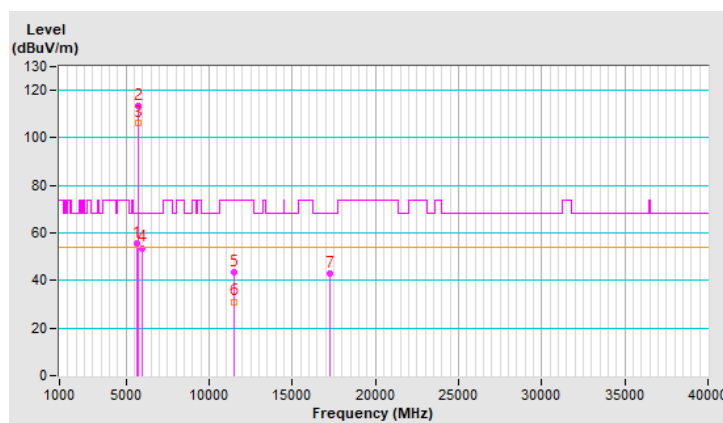


RF Mode	TX 802.11ax (HE20)	Channel	CH 149 : 5745 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nelson Teng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5647.83	55.8 PK	68.2	-12.4	1.26 H	72	50.9	4.9
2	*5745.00	113.6 PK			1.26 H	72	108.5	5.1
3	*5745.00	106.2 AV			1.26 H	72	101.1	5.1
4	#5936.94	53.7 PK	68.2	-14.5	1.26 H	72	48.1	5.6
5	11490.00	43.5 PK	74.0	-30.5	2.64 H	218	28.3	15.2
6	11490.00	31.1 AV	54.0	-22.9	2.64 H	218	15.9	15.2
7	#17235.00	42.9 PK	68.2	-25.3	1.43 H	67	24.4	18.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

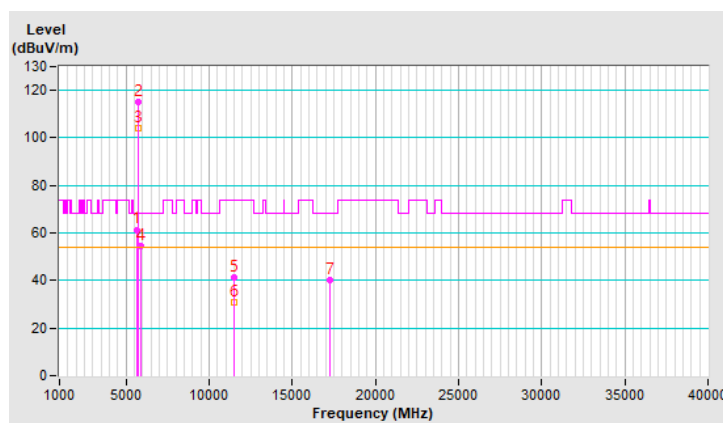


RF Mode	TX 802.11ax (HE20)	Channel	CH 149 : 5745 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nelson Teng		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5648.76	61.4 PK	68.2	-6.8	2.19 V	1	56.5	4.9
2	*5745.00	115.3 PK			2.19 V	1	110.2	5.1
3	*5745.00	103.9 AV			2.19 V	1	98.8	5.1
4	#5925.17	54.3 PK	68.2	-13.9	2.19 V	1	48.7	5.6
5	11490.00	41.5 PK	74.0	-32.5	3.05 V	112	26.3	15.2
6	11490.00	30.6 AV	54.0	-23.4	3.05 V	112	15.4	15.2
7	#17235.00	40.3 PK	68.2	-27.9	2.74 V	303	21.8	18.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

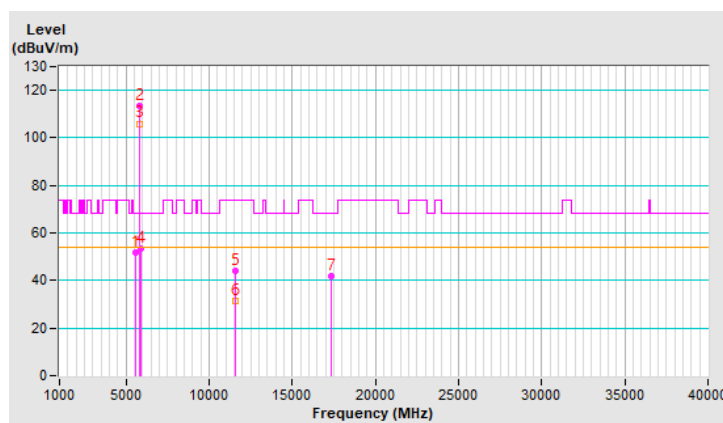


RF Mode	TX 802.11ax (HE20)	Channel	CH 157 : 5785 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nelson Teng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5592.58	52.0 PK	68.2	-16.2	1.21 H	73	47.0	5.0
2	*5785.00	113.7 PK			1.21 H	73	108.5	5.2
3	*5785.00	106.0 AV			1.21 H	73	100.8	5.2
4	#5928.17	53.6 PK	68.2	-14.6	1.21 H	73	48.0	5.6
5	11570.00	44.1 PK	74.0	-29.9	2.71 H	219	28.9	15.2
6	11570.00	31.6 AV	54.0	-22.4	2.71 H	219	16.4	15.2
7	#17355.00	42.0 PK	68.2	-26.2	1.39 H	95	23.1	18.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

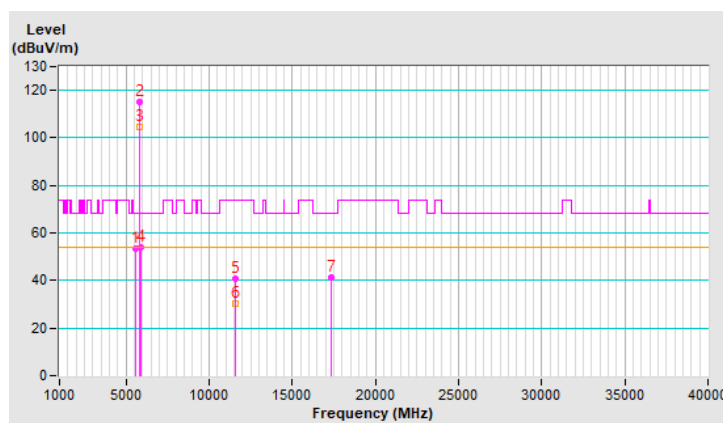


RF Mode	TX 802.11ax (HE20)	Channel	CH 157 : 5785 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nelson Teng		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5616.91	53.5 PK	68.2	-14.7	2.19 V	1	48.6	4.9
2	*5785.00	114.9 PK			2.19 V	1	109.7	5.2
3	*5785.00	104.6 AV			2.19 V	1	99.4	5.2
4	#5929.33	53.8 PK	68.2	-14.4	2.19 V	1	48.2	5.6
5	11570.00	40.7 PK	74.0	-33.3	2.98 V	129	25.5	15.2
6	11570.00	30.2 AV	54.0	-23.8	2.98 V	129	15.0	15.2
7	#17355.00	41.1 PK	68.2	-27.1	2.70 V	290	22.2	18.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

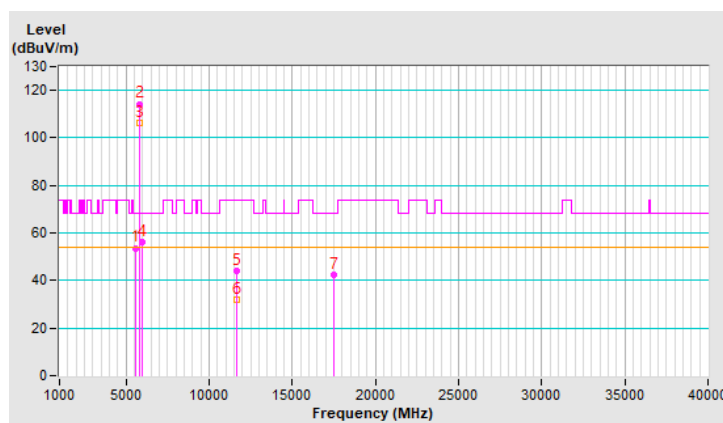


RF Mode	TX 802.11ax (HE20)	Channel	CH 165 : 5825 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nelson Teng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5604.58	53.7 PK	68.2	-14.5	1.20 H	61	48.7	5.0
2	*5825.00	114.3 PK			1.20 H	61	108.9	5.4
3	*5825.00	106.4 AV			1.20 H	61	101.0	5.4
4	#5934.39	56.1 PK	68.2	-12.1	1.20 H	61	50.5	5.6
5	11650.00	44.2 PK	74.0	-29.8	2.66 H	233	29.1	15.1
6	11650.00	31.9 AV	54.0	-22.1	2.66 H	233	16.8	15.1
7	#17475.00	42.3 PK	68.2	-25.9	1.41 H	77	23.3	19.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

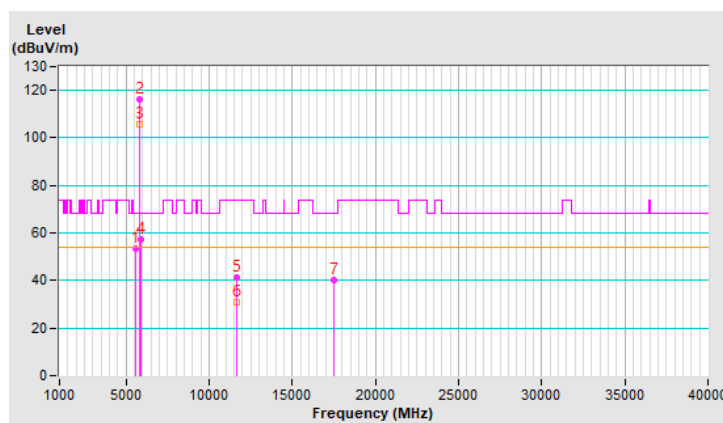


RF Mode	TX 802.11ax (HE20)	Channel	CH 165 : 5825 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nelson Teng		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5552.54	53.4 PK	68.2	-14.8	2.19 V	1	48.5	4.9
2	*5825.00	116.1 PK			2.19 V	1	110.7	5.4
3	*5825.00	105.6 AV			2.19 V	1	100.2	5.4
4	#5929.50	57.3 PK	68.2	-10.9	2.19 V	1	51.7	5.6
5	11650.00	41.4 PK	74.0	-32.6	3.05 V	128	26.3	15.1
6	11650.00	30.9 AV	54.0	-23.1	3.05 V	128	15.8	15.1
7	#17475.00	40.4 PK	68.2	-27.8	2.69 V	306	21.4	19.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * " : Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # " : The radiated frequency is out of the restricted band.

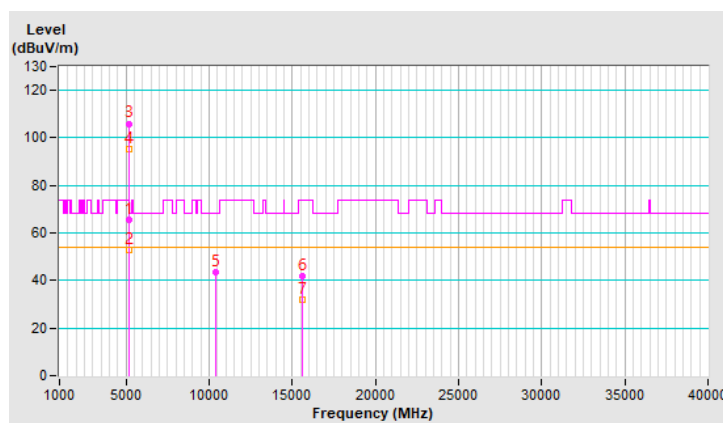


RF Mode	TX 802.11ax (HE40)	Channel	CH 38 : 5190 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nelson Teng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	65.6 PK	74.0	-8.4	1.32 H	72	60.8	4.8
2	5150.00	52.8 AV	54.0	-1.2	1.32 H	72	48.0	4.8
3	*5190.00	106.0 PK			1.32 H	72	101.4	4.6
4	*5190.00	95.3 AV			1.32 H	72	90.7	4.6
5	#10380.00	43.6 PK	68.2	-24.6	2.62 H	229	29.4	14.2
6	15570.00	41.6 PK	74.0	-32.4	1.42 H	76	27.4	14.2
7	15570.00	31.9 AV	54.0	-22.1	1.42 H	76	17.7	14.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

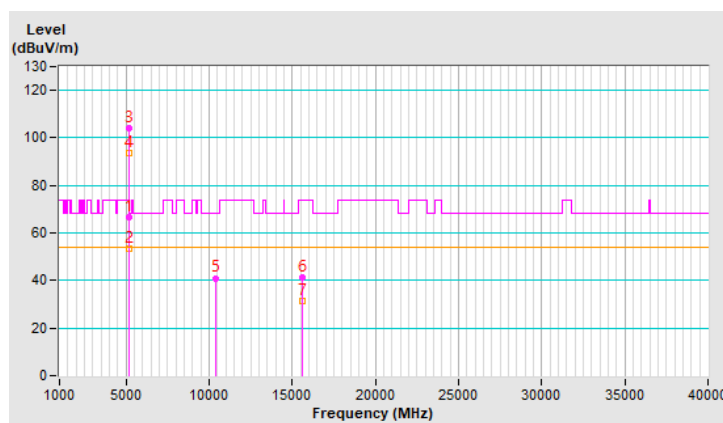


RF Mode	TX 802.11ax (HE40)	Channel	CH 38 : 5190 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nelson Teng		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	66.4 PK	74.0	-7.6	2.88 V	13	61.6	4.8
2	5150.00	53.4 AV	54.0	-0.6	2.88 V	13	48.6	4.8
3	*5190.00	104.2 PK			2.88 V	13	99.6	4.6
4	*5190.00	93.5 AV			2.88 V	13	88.9	4.6
5	#10380.00	41.0 PK	68.2	-27.2	2.99 V	126	26.8	14.2
6	15570.00	41.2 PK	74.0	-32.8	2.69 V	296	27.0	14.2
7	15570.00	31.2 AV	54.0	-22.8	2.69 V	296	17.0	14.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

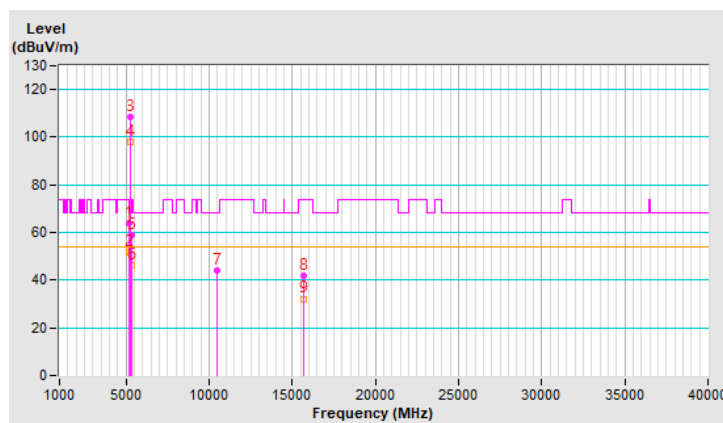


RF Mode	TX 802.11ax (HE40)	Channel	CH 46 : 5230 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nelson Teng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	63.8 PK	74.0	-10.2	1.25 H	77	59.0	4.8
2	5150.00	52.0 AV	54.0	-2.0	1.25 H	77	47.2	4.8
3	*5230.00	108.5 PK			1.25 H	77	104.0	4.5
4	*5230.00	98.0 AV			1.25 H	77	93.5	4.5
5	5350.00	58.7 PK	74.0	-15.3	1.25 H	77	54.0	4.7
6	5350.00	46.0 AV	54.0	-8.0	1.25 H	77	41.3	4.7
7	#10460.00	44.1 PK	68.2	-24.1	2.62 H	216	29.7	14.4
8	15690.00	41.9 PK	74.0	-32.1	1.38 H	85	28.5	13.4
9	15690.00	32.2 AV	54.0	-21.8	1.38 H	85	18.8	13.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

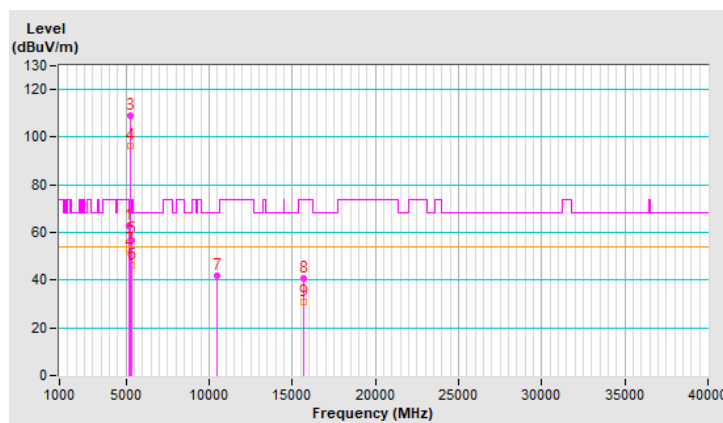


RF Mode	TX 802.11ax (HE40)	Channel	CH 46 : 5230 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nelson Teng		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	62.7 PK	74.0	-11.3	2.74 V	1	57.9	4.8
2	5150.00	52.7 AV	54.0	-1.3	2.74 V	1	47.9	4.8
3	*5230.00	108.8 PK			2.74 V	1	104.3	4.5
4	*5230.00	96.2 AV			2.74 V	1	91.7	4.5
5	5350.00	57.0 PK	74.0	-17.0	2.74 V	1	52.3	4.7
6	5350.00	46.1 AV	54.0	-7.9	2.74 V	1	41.4	4.7
7	#10460.00	41.6 PK	68.2	-26.6	3.07 V	136	27.2	14.4
8	15690.00	40.7 PK	74.0	-33.3	2.67 V	291	27.3	13.4
9	15690.00	30.7 AV	54.0	-23.3	2.67 V	291	17.3	13.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

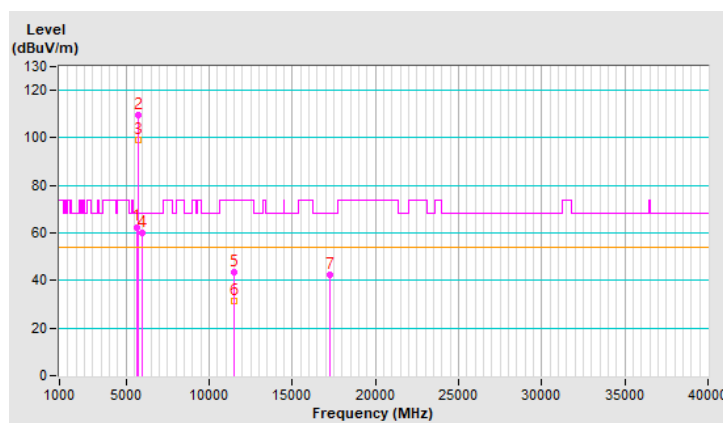


RF Mode	TX 802.11ax (HE40)	Channel	CH 151 : 5755 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nelson Teng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5644.17	62.5 PK	68.2	-5.7	1.37 H	81	57.6	4.9
2	*5755.00	109.6 PK			1.37 H	81	104.5	5.1
3	*5755.00	98.9 AV			1.37 H	81	93.8	5.1
4	#5951.19	60.2 PK	68.2	-8.0	1.37 H	81	54.6	5.6
5	11510.00	43.6 PK	74.0	-30.4	2.63 H	219	28.5	15.1
6	11510.00	31.4 AV	54.0	-22.6	2.63 H	219	16.3	15.1
7	#17265.00	42.6 PK	68.2	-25.6	1.37 H	67	24.0	18.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

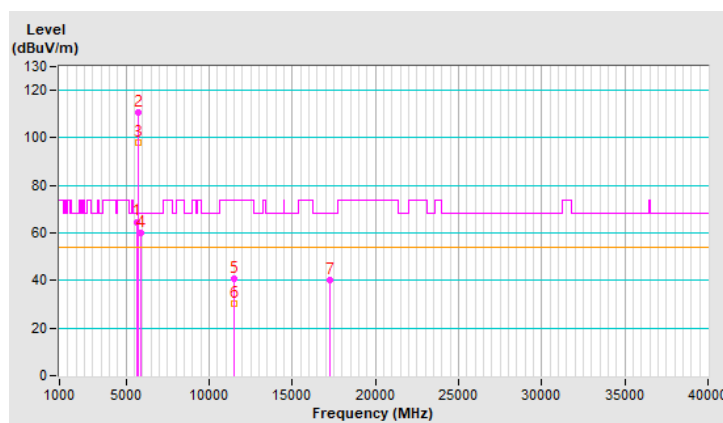


RF Mode	TX 802.11ax (HE40)	Channel	CH 151 : 5755 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nelson Teng		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5649.59	64.7 PK	68.2	-3.5	2.34 V	17	59.8	4.9
2	*5755.00	110.8 PK			2.34 V	17	105.7	5.1
3	*5755.00	98.2 AV			2.34 V	17	93.1	5.1
4	#5927.05	59.8 PK	68.2	-8.4	2.34 V	17	54.2	5.6
5	11510.00	40.9 PK	74.0	-33.1	3.00 V	119	25.8	15.1
6	11510.00	30.5 AV	54.0	-23.5	3.00 V	119	15.4	15.1
7	#17265.00	40.0 PK	68.2	-28.2	2.72 V	285	21.4	18.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

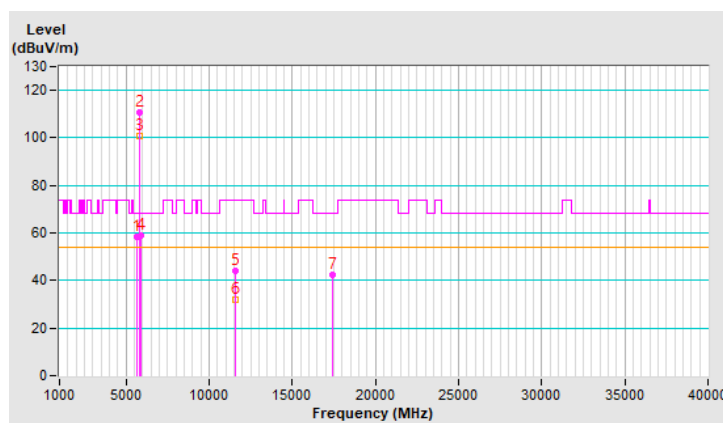


RF Mode	TX 802.11ax (HE40)	Channel	CH 159 : 5795 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nelson Teng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5642.96	58.2 PK	68.2	-10.0	1.35 H	96	53.3	4.9
2	*5795.00	110.9 PK			1.35 H	96	105.7	5.2
3	*5795.00	100.8 AV			1.35 H	96	95.6	5.2
4	#5931.16	58.8 PK	68.2	-9.4	1.35 H	96	53.2	5.6
5	11590.00	44.2 PK	74.0	-29.8	2.68 H	209	29.0	15.2
6	11590.00	31.7 AV	54.0	-22.3	2.68 H	209	16.5	15.2
7	#17385.00	42.5 PK	68.2	-25.7	1.29 H	78	23.4	19.1

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

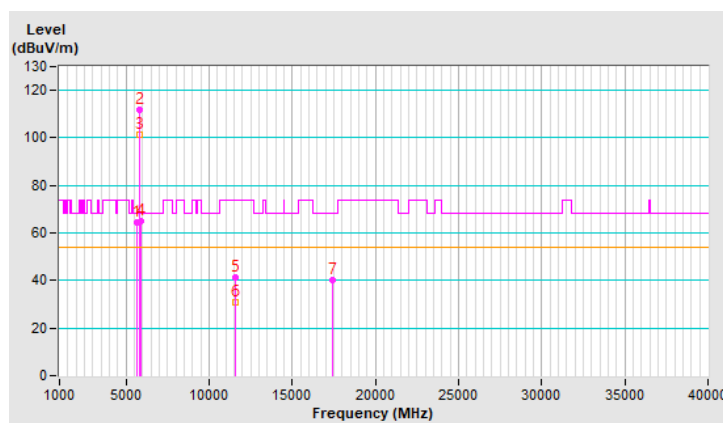


RF Mode	TX 802.11ax (HE40)	Channel	CH 159 : 5795 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nelson Teng		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5641.25	64.6 PK	68.2	-3.6	2.44 V	3	59.7	4.9
2	*5795.00	111.7 PK			2.44 V	3	106.5	5.2
3	*5795.00	101.3 AV			2.44 V	3	96.1	5.2
4	#5928.55	64.8 PK	68.2	-3.4	2.44 V	3	59.2	5.6
5	11590.00	41.3 PK	74.0	-32.7	3.08 V	122	26.1	15.2
6	11590.00	30.8 AV	54.0	-23.2	3.08 V	122	15.6	15.2
7	#17385.00	40.3 PK	68.2	-27.9	2.73 V	299	21.2	19.1

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

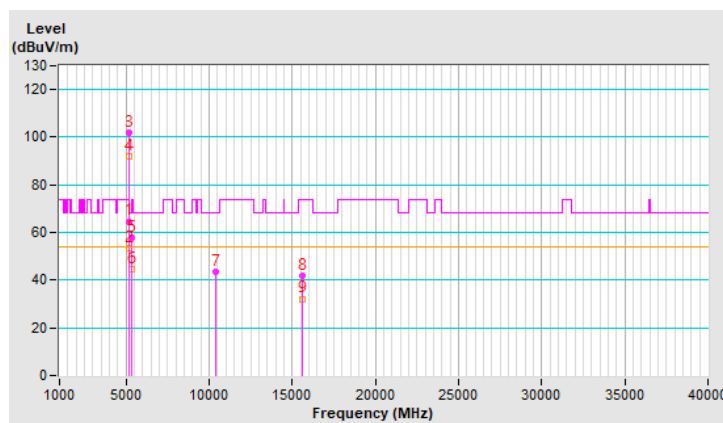


RF Mode	TX 802.11ax (HE80)	Channel	CH 42 : 5210 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nelson Teng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	64.7 PK	74.0	-9.3	1.35 H	76	59.9	4.8
2	5150.00	53.4 AV	54.0	-0.6	1.35 H	76	48.6	4.8
3	*5210.00	101.7 PK			1.35 H	76	97.1	4.6
4	*5210.00	91.9 AV			1.35 H	76	87.3	4.6
5	5350.00	57.7 PK	74.0	-16.3	1.35 H	76	53.0	4.7
6	5350.00	44.4 AV	54.0	-9.6	1.35 H	76	39.7	4.7
7	#10420.00	43.6 PK	68.2	-24.6	2.73 H	217	29.3	14.3
8	15630.00	41.9 PK	74.0	-32.1	1.33 H	91	28.1	13.8
9	15630.00	32.2 AV	54.0	-21.8	1.33 H	91	18.4	13.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

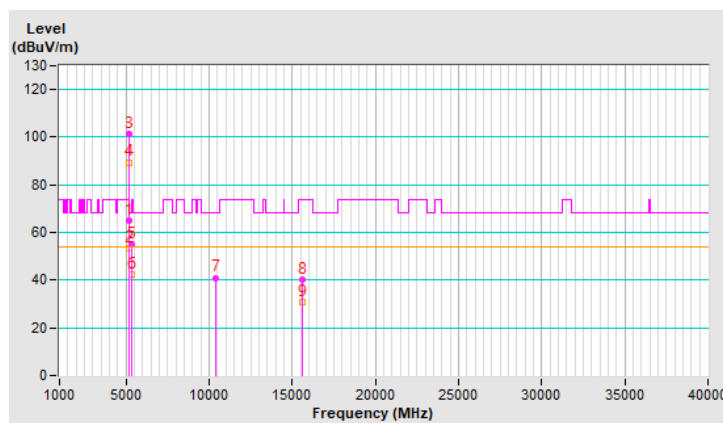


RF Mode	TX 802.11ax (HE80)	Channel	CH 42 : 5210 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nelson Teng		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	64.8 PK	74.0	-9.2	2.74 V	6	60.0	4.8
2	5150.00	53.5 AV	54.0	-0.5	2.74 V	6	48.7	4.8
3	*5210.00	101.5 PK			2.74 V	6	96.9	4.6
4	*5210.00	89.5 AV			2.74 V	6	84.9	4.6
5	5350.00	55.3 PK	74.0	-18.7	2.74 V	6	50.6	4.7
6	5350.00	42.5 AV	54.0	-11.5	2.74 V	6	37.8	4.7
7	#10420.00	41.0 PK	68.2	-27.2	3.07 V	116	26.7	14.3
8	15630.00	40.4 PK	74.0	-33.6	2.74 V	291	26.6	13.8
9	15630.00	30.7 AV	54.0	-23.3	2.74 V	291	16.9	13.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

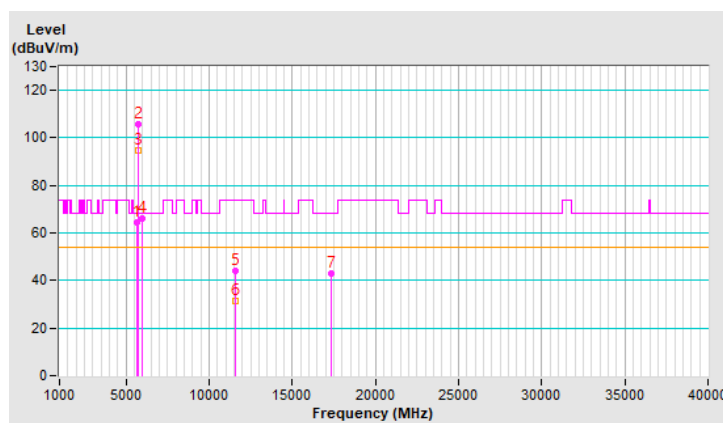


RF Mode	TX 802.11ax (HE80)	Channel	CH 155 : 5775 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nelson Teng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5646.78	64.2 PK	68.2	-4.0	1.29 H	60	59.3	4.9
2	*5775.00	105.7 PK			1.29 H	60	100.5	5.2
3	*5775.00	94.9 AV			1.29 H	60	89.7	5.2
4	#5954.70	66.1 PK	68.2	-2.1	1.29 H	60	60.5	5.6
5	11550.00	44.0 PK	74.0	-30.0	2.65 H	209	28.9	15.1
6	11550.00	31.5 AV	54.0	-22.5	2.65 H	209	16.4	15.1
7	#17325.00	42.7 PK	68.2	-25.5	1.33 H	63	23.8	18.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

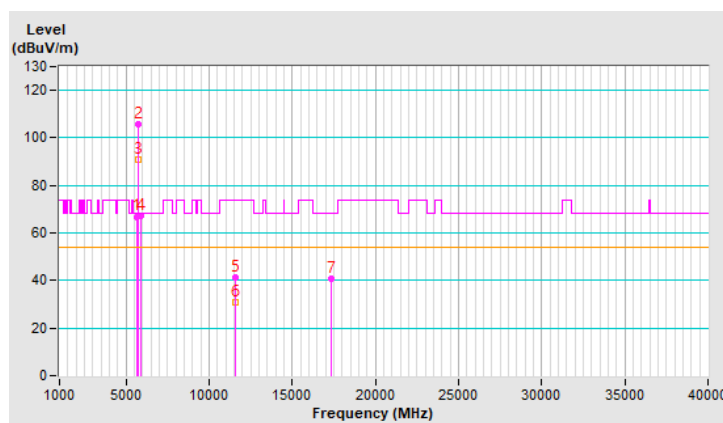


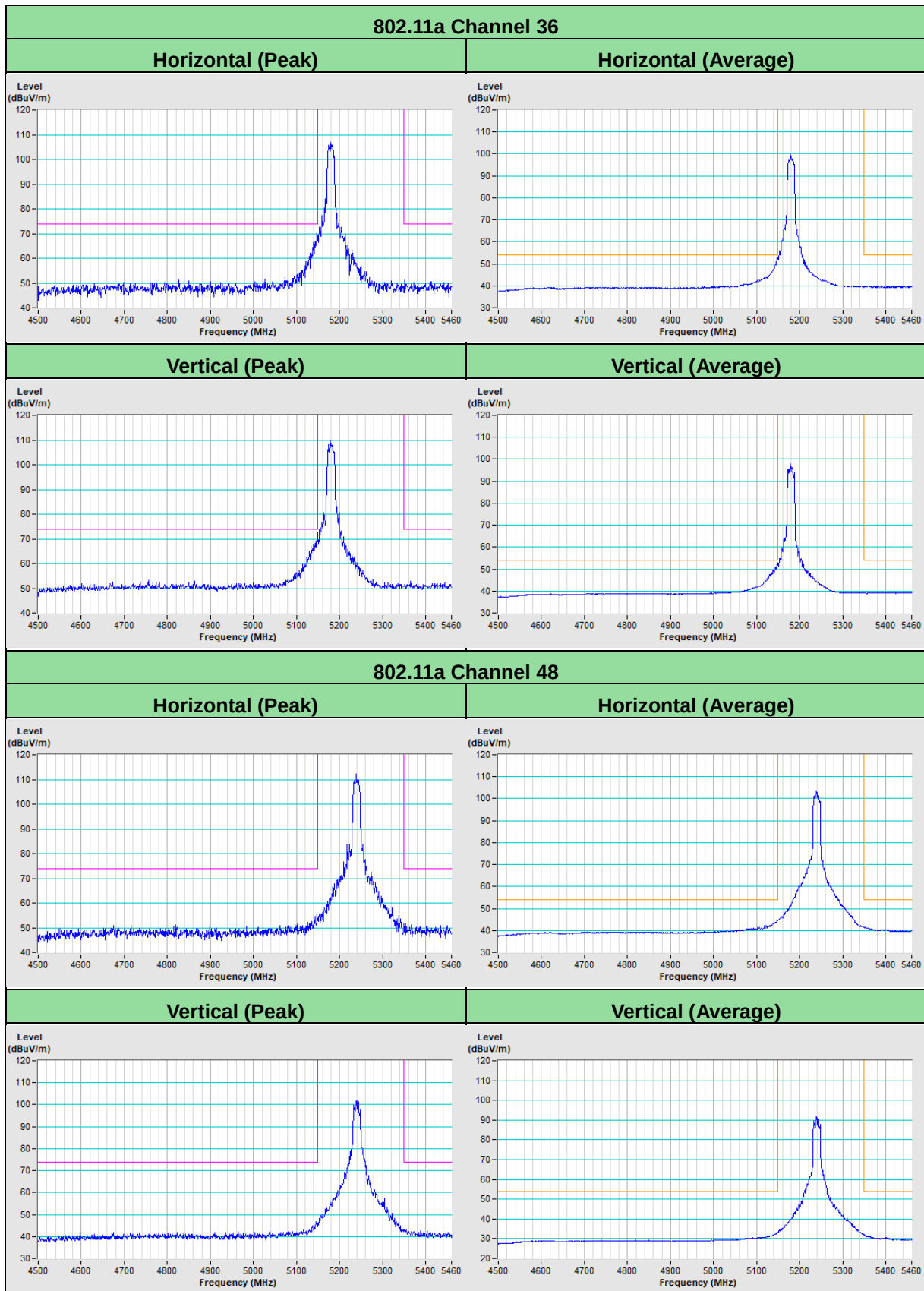
RF Mode	TX 802.11ax (HE80)	Channel	CH 155 : 5775 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Nelson Teng		

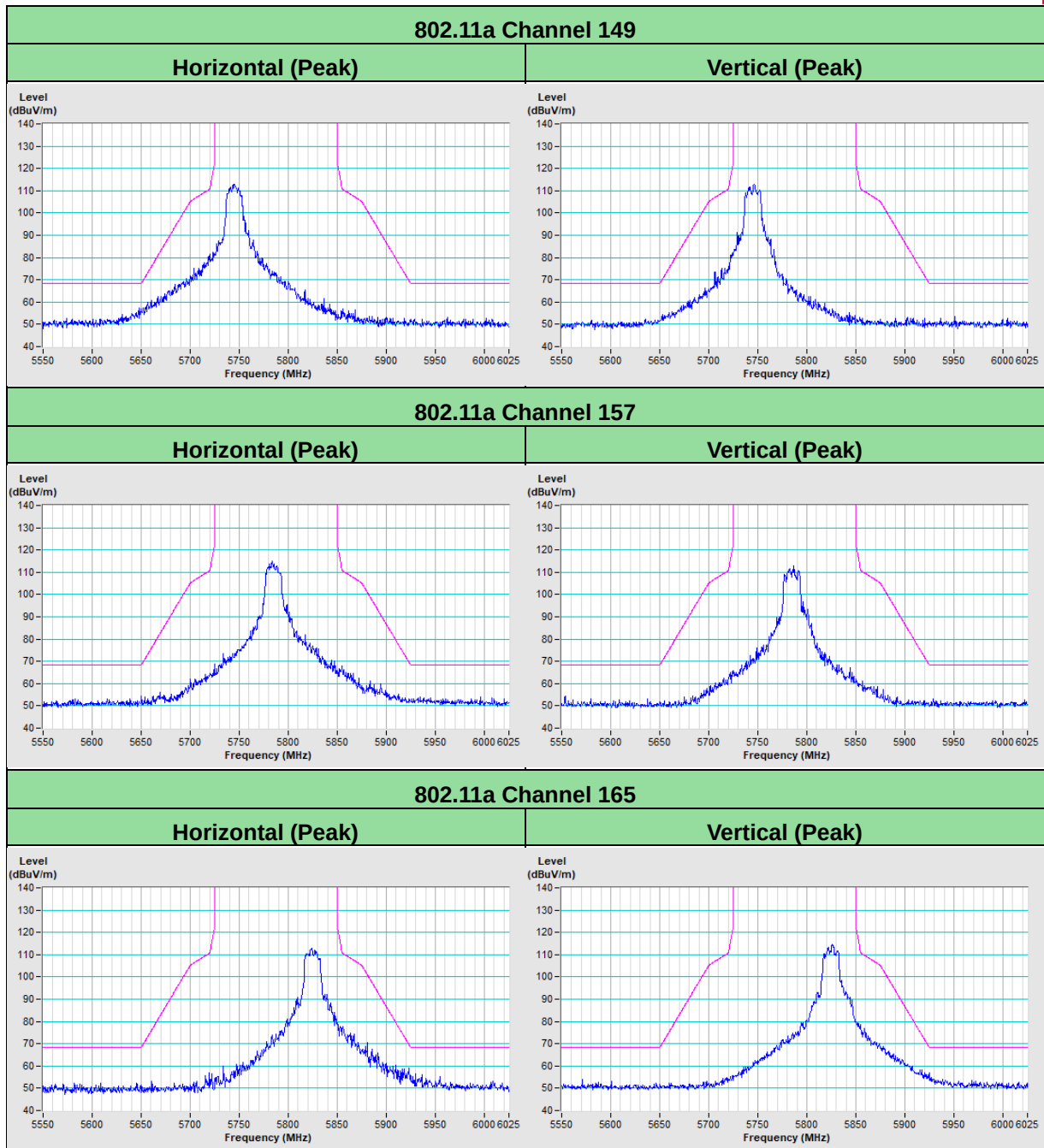
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5642.13	66.9 PK	68.2	-1.3	2.37 V	3	62.0	4.9
2	*5775.00	105.9 PK			2.37 V	3	100.7	5.2
3	*5775.00	91.1 AV			2.37 V	3	85.9	5.2
4	#5933.23	67.0 PK	68.2	-1.2	2.37 V	3	61.4	5.6
5	11550.00	41.5 PK	74.0	-32.5	3.09 V	137	26.4	15.1
6	11550.00	30.9 AV	54.0	-23.1	3.09 V	137	15.8	15.1
7	#17325.00	40.8 PK	68.2	-27.4	2.71 V	292	21.9	18.9

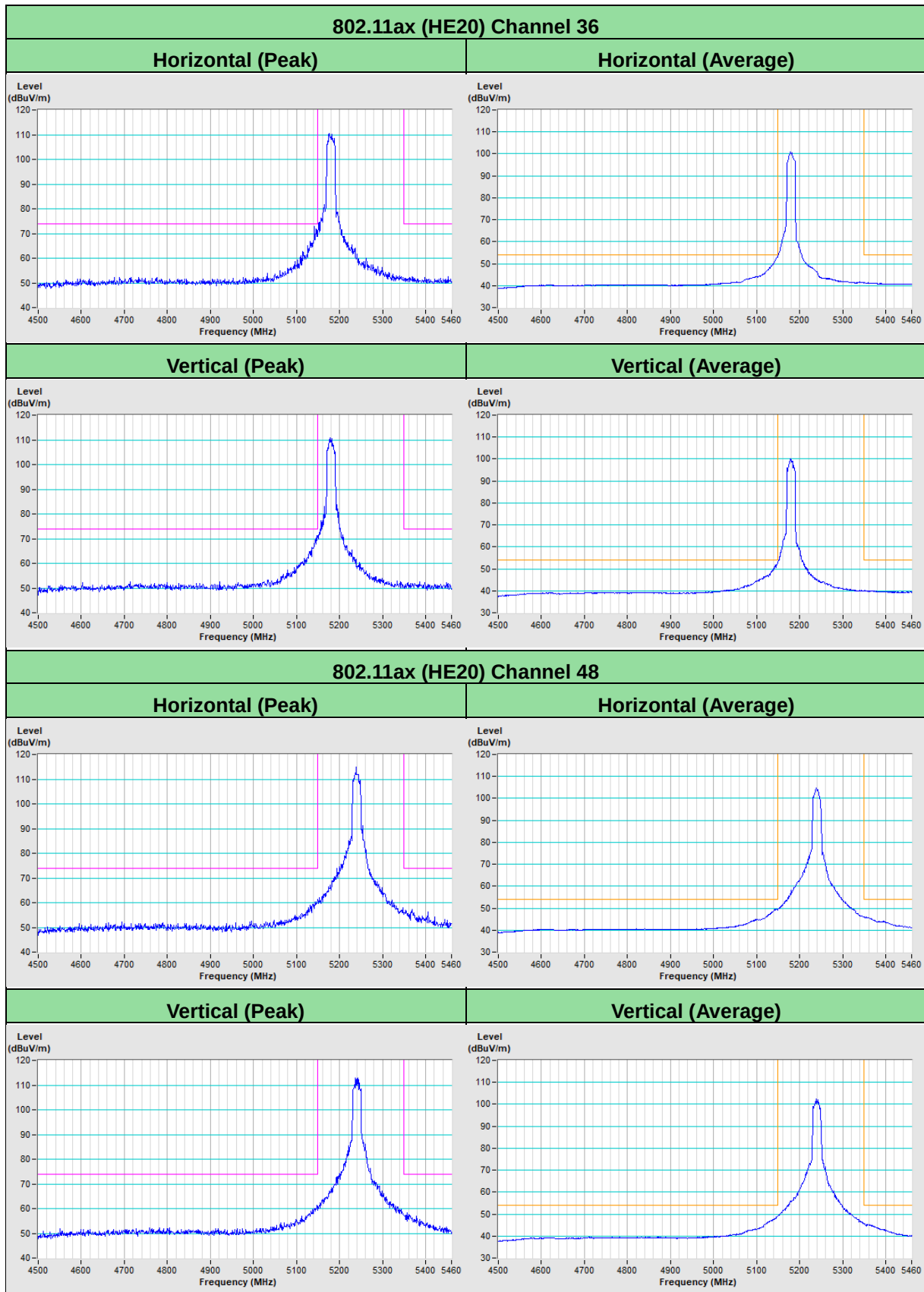
Remarks:

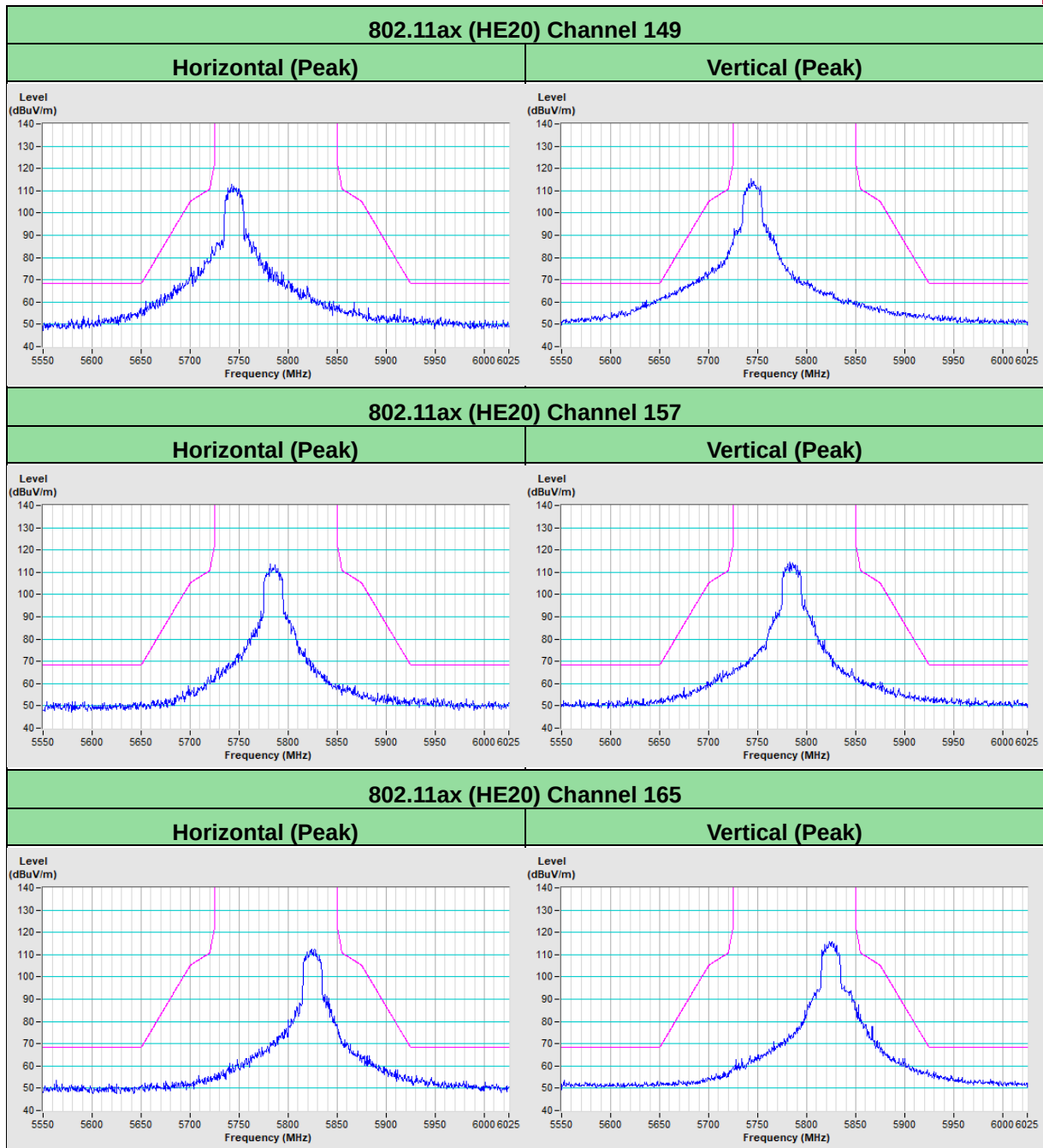
1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

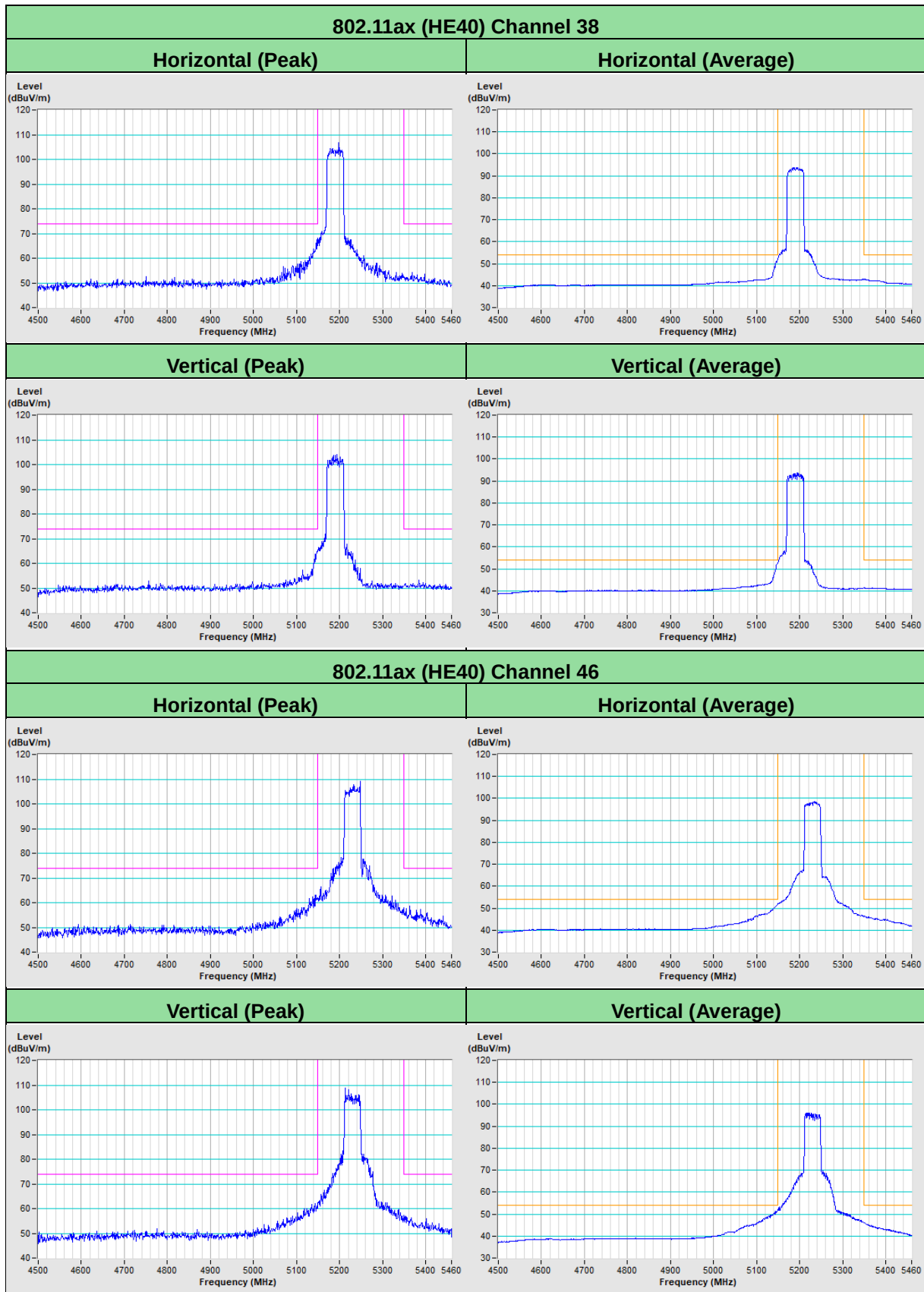


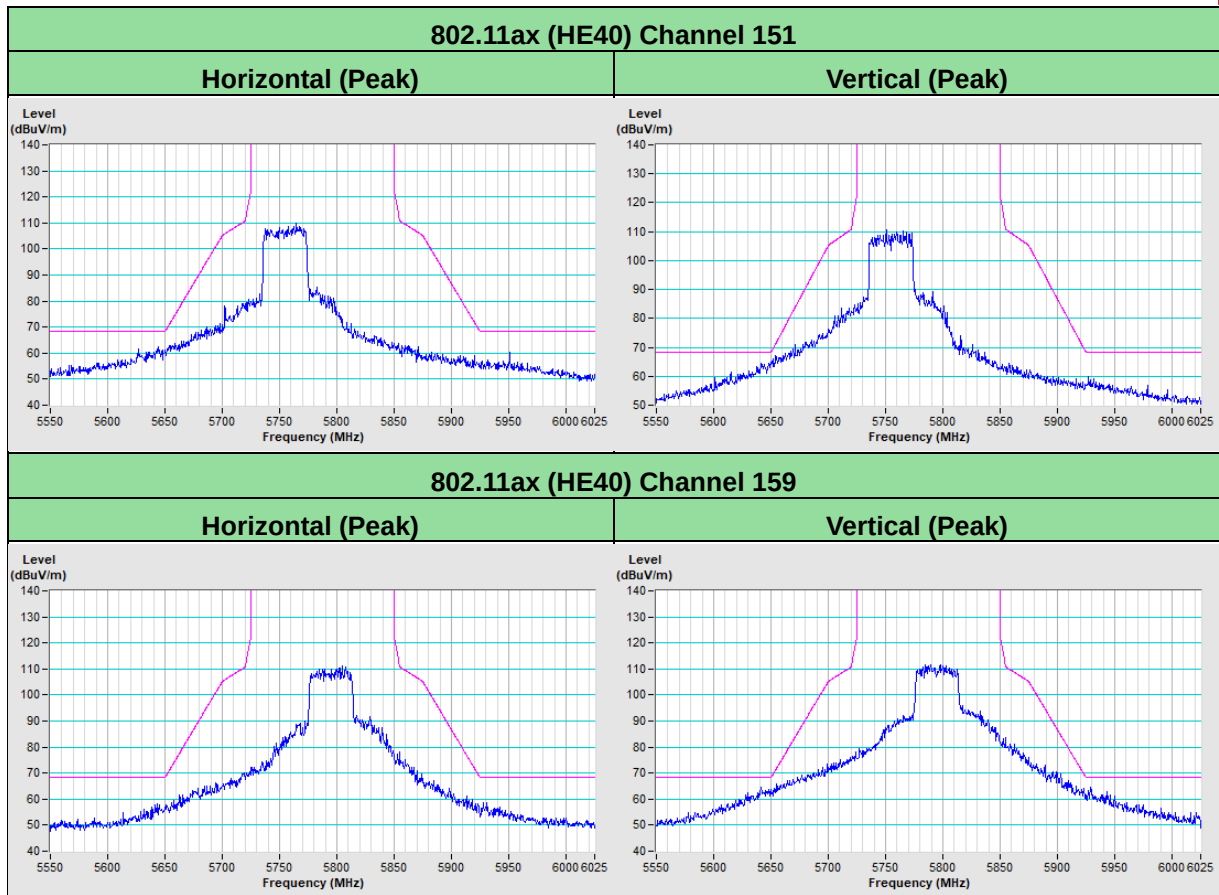


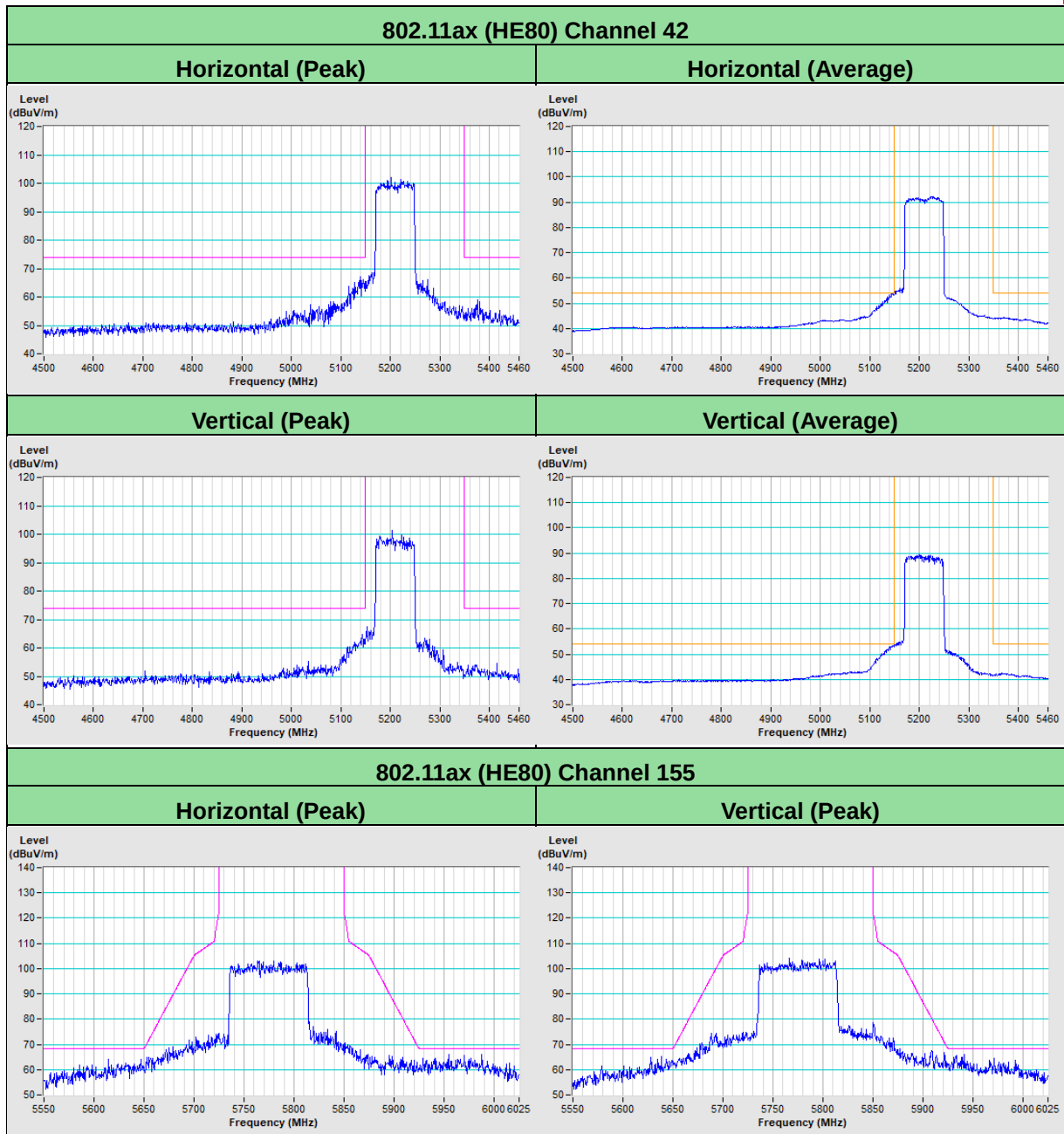












8 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo)

9 Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

Lin Kou EMC/RF Lab

Tel: 886-2-26052180

Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab

Tel: 886-3-6668565

Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Lab

Tel: 886-3-3183232

Fax: 886-3-3270892

Email: service.adt@bureauveritas.com

Web Site: <http://ee.bureauveritas.com.tw>

The address and road map of all our labs can be found in our web site also.

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